

THE RAILWAY GAZETTE

A Journal of Management, Engineering and Operation
INCORPORATING

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CONTENTS

	PAGE
Editorial Notes	233
T.U.C. National Transport Scheme	235
T.U.C. Report on Public Ownership	235
Railways: Censorship: Wartime Traffic	236
Railway Rates in the United States	237
Letters to the Editor	238
The Scrap Heap	239
Overseas Railway Affairs	240
Recent Locomotive Designs	241
Some New Works for Wartime Traffic—1	242
First Aluminium Box Wagon Built in Canada	244
New L.M.S.R. Coaches	245
Personal	247
News Articles	249
Notes and News	254
Stock Market and Table	256

DIESEL RAILWAY TRACTION SUPPLEMENT

The September issue of THE RAILWAY GAZETTE Supplement, illustrating and describing developments in Diesel Railway Traction, is now ready, price 1s.

TO CALLERS AND TELEPHONERS

Until further notice our office hours are: Mondays to Fridays, 9.30 a.m. till 5.30 p.m.

The office is closed on Saturdays.

ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter.

ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards.

Railway Stockholders and Nationalisation

THE British Railway Stockholders Union has maintained on several occasions that, if Parliament decides that the nationalisation of railways is desirable, the responsibility must rest with Parliament. In the current issue of *The Railway Stockholder*, the organ of the union, it is made clear that what the union is concerned with is a just bargain between the Government and those who have invested their savings in a public utility of major importance, which by common consent has given sterling service to the State during the war. *The Railway Stockholder* also comments on recent fluctuations in Stock Exchange prices of railway securities, and points out that these variations reflect very little when the question at issue is the real value of the stocks. At the present time railway dividends are paid from a guaranteed pool, with the credit of the British Government behind it, and whether Conservative, National, or Labour, the Government is still credit-worthy. Although nationalisation may well be a bad thing, the establishment of a transport board would be in no sense revolutionary. What would be revolutionary would be the confiscation of the savings of stockholders by compelling them to accept unfair and inadequate compensation. *The Railway Stockholder* quotes Mr. Attlee as saying that "when in due course you cease to be railway stockholders, the community will make a fair bargain with you."

Termination of War Contracts

A circular letter from the Board of Trade, Admiralty, Ministry of Labour & National Service, and Ministry of Supply & Aircraft Production, has been sent to 45,000 firms engaged on war work, referring to recent cancellations or reductions of munitions contracts. The changes are expected to release a million workers within two months. The circular advises ways calculated to ease the changeover, and stresses the desirability of explaining to the workpeople the effects of the changes in contracts on the work of the factories and the numbers employed. Employers will assist the Ministry of Labour to make arrangements for putting redundant workers into touch with other employment if they notify the local offices of the Ministry as soon as possible of any expected releases of staff. As to the clearance of factories, the contractor is asked to have inventories prepared of materials, partly manufactured goods, and plant used in connection with war contracts which is not required for civilian production. The removal of the material will be dealt with by Regional Controllers. Manufacturers wishing to undertake preparatory work for post-war trade need no longer obtain authority from the Board of Trade, but the warning is renewed that draughtsmen and certain other skilled workers will be in short supply, and that development work as far as possible should be conducted with existing staff.

Mr. P. E. Culverhouse—53 years with G.W.R.

Mr. P. E. Culverhouse, who has been Architect to the Great Western Railway since 1929, leaves behind him tangible evidence of the ability he brought to bear on his work for the company. The results of much of the work he has done in recent years, however, will not be discernible for some time, for among his activities lately has been the completion of designs for many large prospective hotels on the G.W.R. system which have to await being put in hand until labour difficulties are overcome and materials are available. Mr. Culverhouse joined the G.W.R. in 1892, on the personal staff of Sir James Inglis, the then Chief Engineer, who, at the time, was engaged on a number of station alterations necessitated by the gauge conversion. As will be seen from the biographical details which we give elsewhere in this issue, Mr. Culverhouse has been responsible for the design and erection of a number of important G.W.R. stations and other large buildings, and since the railway company took over the hotels on its system, the improvement and modernisation of these have been added to his responsibilities. Probably his best known and most outstanding work was the modernisation of the Paddington Royal Hotel, which in many ways is an excellent example of what can be done in this sphere with imagination and foresight.

Peace and "Security"

The return to peace is bringing but slow relaxation of the many controls and restrictions which were imposed in time of war. Among the latter were the "security" arrangements which were put into force at all Government offices. Many of our readers will be familiar with the performance of form-filling and escort which became a part of the ceremony of entering these precincts. On our Scrap Heap page we reprint a leading article from a recent issue of *The Evening Standard*, calling for the removal of the pass system at Government offices. At the Ministry of War Transport it is still the custom for a messenger to take the caller from the entrance to

the required floor, where another escorts him down a corridor to the office he wishes to visit. A pass, of course, has to be filled in at the entrance, but, according to *The Evening Standard*, by some inconsistency in the security precautions, the visitor is permitted "to depart unguarded." The procedure at the Ministry provides a striking sidelight on the differences between State and company ways of conducting business. Throughout the war no such difficulties were encountered by anyone calling at Paddington or the other railway chief offices, where the actual business of operating transport was conducted.

The Salvador Railway

An important report on the position and prospects of the Salvador Railway Co., Ltd., was brought up at the recent general meeting by Mr. Robert Adeane, a director, on his recent visit to Salvador. He first visited the railway in May, 1933, when the company was struggling against road and rail competition. Since then it had suffered vast damage by floods and storms and from revolutions and civil strife, and during the later war years from a lack of shipping at the port of Acajutla on the Pacific Coast. Large maintenance arrears would absorb all the cash likely to be available for some time, but he thought the railway had possibilities of better times. The Chairman, in his statement issued with the annual report, said that future prospects depended upon the coffee exports and on the resumption of imports through Acajutla. Due to war conditions and the consequent decrease in lorry competition, receipts in the year ended June 30, 1945, amounted to £119,378, against £100,358, and there was a profit on working of £33,000, which was only secured at the expense of extreme economy and the deferment of upkeep of line and rolling stock caused by lack of all kinds of imported stores. It is anticipated that the increase in passenger travel may be retained even in the face of returning bus competition. The present title of the company dates from 1897. Its system runs from Acajutla to Santa Lucia (Santa Ana) and from Sitio del Nino to San Salvador, a total length of 100 miles on the 3-ft. gauge. No dividend has been paid since 1913.

Bank Holidays

On August 23 Lieutenant T. C. Skeffington Lodge, the Labour Member for Bedford, in the House of Commons asked the Chancellor of the Exchequer whether he would arrange an additional annual bank holiday between August and Christmas. Mr. Dalton, in his reply, stated that the proposal would be borne in mind, although he was "not prepared to adopt it at present." The reasons put forward by the questioner, in support of his suggestion, were that the additional holiday would be in the "interests of general efficiency and the health of the people." Certainly so far as the first of these is concerned, there seems good reason to suppose that an extra bank holiday would contribute nothing to efficiency, but by producing yet another break in business and trade, would detract from it. The health of the people at the present time would seem to be sufficiently catered for by the already generous allowance of paid holidays in the course of the year, and the fact that holidays with pay are now the rule, rather than the exception. As we pointed out in our August 24 issue, the number of insured workers enjoying holidays with pay agreements is steadily rising from its present total of 15,000,000. Admirable as were the motives when Lubbock's Bank Holidays Act was passed in 1871, bank holidays have now outlived their usefulness, and have become a nuisance. In the interests of efficiency, it is high time the August and Whitsuntide Bank Holidays were abolished. The outstanding need at the moment, and for some time to come, is not more holidays, but more work.

London-Dover Boat Trains

The announcement on another page of a proposed acceleration of the London-Dover boat trains prompts a reference back to earlier timings. In advance of competition of the London, Chatham & Dover Railway, with its route of some 78 miles between Victoria and Dover, the South Eastern Railway had in 1860 reduced the best timings of its two Continental mail expresses over its old main-line route of 88 miles from London Bridge, via Red Hill, to Dover, from 2½ hours, including more than one stop in most instances, to 2 hr. 5 min. By 1863, the best timing had been reduced to 2 hours, also including one or more stops in some cases. These "two-hour" mail trains, of which there were two in each direction, were run at a speed remarkable for those days. Competitive conditions for the South Eastern gradually became easier with its entrance to a West-end terminus at Charing Cross in 1864, with a "Continental agreement" between the two companies in 1865 for the pooling of traffic between London and Folkestone and Dover, and the opening in 1868 of the Sevenoaks direct line between

London and Tonbridge, which saved about 12 miles. Thereafter the two companies seemed to have settled down to an easier timing of about 1½ hours, which remained for several years without material alteration and was applied to additional services, such as the 10 a.m. down, inaugurated in the early 'eighties, and the short-lived "Club train" service of 1889-93. Under the working union of 1899 between the two companies, a notable step forward was made in the inauguration in July, 1913, of a Continental service leaving Charing Cross at 4.30 p.m. and covering the 76½ miles to Dover Pier in 90 minutes.

The Melbourne Military Railway

We are now able to record that the Chellaston Junction to Ashby branch of the L.M.S.R. became the Melbourne Military Railway from midnight on November 19, 1939, as an alternative training centre to Longmoor. There was not a passenger service in operation on this branch, but the ordinary goods service at first continued to be worked by L.M.S.R. locomotives and crews. As permanent way alterations were frequently taking place, pilot drivers and guards were provided by the Military Authorities. All the commercial, handling, and cartage work was performed by L.M.S.R. staff. Signalling, shunting, etc., was carried out by W.D. staff. Subsequently, the Military took over the working of all traffic on the branch. Exchange sidings were laid in at Chellaston quarry and traffic was worked forward from that point by Military trains and personnel. Six L.M.S.R. Class "1 FT." locomotives of the 0-6-0 type were loaned to the Melbourne Military Railway from 1940 to 1945; these have now been returned to L.M.S.R. service. In addition, 16 other steam locomotives were loaned to the Melbourne Military Railway for varying periods, as well as a 350 h.p. diesel unit. Some dual fitted (Westinghouse and vacuum brake) passenger vehicles, goods wagons, and goods brake vans were also lent to the M.M.R. The branch was returned to the L.M.S.R. on January 1, 1945.

Education for Road Transport

In a paper contributed to *The Journal of the Institute of Transport* in 1942, Mr. R. Stuart Pilcher stressed the need for developing the facilities for education for those engaged in road transport, and suggested that the President of the Institute should convene a conference to discuss the matter. This suggestion was adopted; and the first meeting of the conference, at which the leading associations in the road transport industry, and the technical institutes, were represented, was held in the following summer. In the recently-published report of the conference, the inadequacy of existing facilities is admitted, and detailed recommendations are submitted for a three-year course of study for a diploma of the Royal Society of Arts. The syllabus of the suggested examinations includes road transport engineering, accounts, statistics, and economics, in addition to general operating problems. At a later stage provision for wider practical experience, by means of temporary transfers of staff between departments, and even between undertakings, is visualised. The scheme is intended primarily for those whose standard of general education does not permit them to obtain degrees or to become Students of the Institute of Transport. It is especially welcome as a means of providing additional training for men whose normal employment has been interrupted by service with the Armed Forces.

Uncollected Fares on Road Vehicles

Great Britain, with its "closed" railway stations, does not encounter any problem of magnitude with uncollected fares, such as is experienced in India. On urban road vehicles it is otherwise, and the subject has been ventilated recently in the correspondence columns of *The Times*. In London, the lassitude of some women conductors and tired elderly male conductors has resulted in a large number of bus fares remaining uncollected. An official reply to the correspondence from Mr. T. E. Thomas, General Manager, London Passenger Transport Board, states that the issue of season tickets to regular passengers, or, alternatively, the sale of books of tickets, for use on the board's road services, has been considered on many occasions, but the conclusion was reached that, unless such tickets were sold at a discount, there would be little or no demand. It has not been found possible to fix a basis upon which the charges for such tickets could be made which would be of sufficient attractiveness to passengers and, at the same time, not involve the board in a serious loss of revenue. London Transport has also considered, from time to time, the installation of "honesty boxes" on its vehicles, but has come to the conclusion that, for various reasons, their introduction in the London Transport area would create difficulties outweighing any possible advantage. Mr. Thomas concludes that present conditions of travel are exceptional, but, when the necessary labour is available to enable services to be improved, the matter should lose its significance.

Timber in New L.M.S.R. Coaches

In our June 1 issue we referred to 800 corridor vestibule coaches which are being built by the L.M.S.R. Elsewhere in this issue we give an illustrated description of the first of 250 third class coaches which are a part of the programme. It is not always appreciated how widespread are the demands made on other industries by railway rolling stock programmes. In the case of the L.M.S.R. coaches, the amount of timber required is very substantial. The underframes, panels and roofs are steel, in accordance with modern practice, but timber is used for the body framing members, as well as for the interior finishing. Timbers used in the body framing are teak, oak, and jarrah. The floors and partitions are of softwoods or alternatively of 1-in. plywood, the roof members are of oak, ash and deal, the inside casings of deal, the seat backs of deal and hardwood, battery boxes of deal and the cell boxes of teak. The solid finishing timbers are sapeli or guarea, and the interior panels of plywood, faced with decorative veneers such as makori, figured betula, lacewood, weathered sycamore, maple butt, silver greywood, Australian silky oak, and bubinga. In all, some 654,000 sq. ft. of decorative veneer, 248,000 sq. ft. of thick laminated board, 164,000 cu. ft. of multi-ply, 100,000 cu. ft. of plywood and 31,000 cu. ft. of solid finishing timber, are required for the 800 coaches.

T.U.C. National Transport Scheme

THE annual Trades Union Congress at Blackpool, which opens on September 10, appears likely to devote some time to transport affairs. Apart from the finance of nationalisation proposals which are dealt with elsewhere in this issue, it will have before it also a national transport plan issued by the General Council which is described as designed "to provide a door-to-door service of the maximum efficiency and co-ordinating all forms of inland transport by road, rail, water, and air." and as "a practical scheme for developing the transport industry to a condition in which it can make available the best possible services at the least real cost to the community." It proposes the setting up of seven operating boards under one national authority. These seven boards would be: Railways, road haulage, road passenger transport, canals and inland waterways, ports and docks, coastwise shipping, and inland airways.

The General Council proposes that immediate steps should be taken to secure the passing of an Act of Parliament under which there would be acquired for permanent public operation, the railways (including the L.P.T.B.), the main canals, that section of road haulage within the Ministry road haulage organisation, coastwise liners, and those internal airways which have been allowed to continue operation during the war. The Act would delegate to a national transport authority the responsibility for the efficient operation of all acquired services and its duty would be to extend its sphere of operations in the interests of building up a national service providing a comprehensive door-to-door service of the maximum efficiency. The national transport authority would be appointed by, and bear responsibility to, the Minister of Transport, and would take the form of a public corporation. The chairman would be chosen as being of proved ability in the conduct of large-scale undertakings. Other members, similarly, would be appointed at the discretion of the Minister solely on the grounds of their competence and ability. Membership would be full-time and would involve resignation from other paid occupations, including membership of the House of Commons, and relinquishing any financial interest in transport or ancillary undertakings.

The Authority would be independent of government control in matters of day-to-day administration, but would be ultimately responsible for the efficient operation of the industry and the general policy of the Authority to the Minister, who, in turn, would be responsible to Parliament. A full debate would take place each year on the submission to Parliament of the annual report and accounts. There would be a further opportunity for parliamentary activity through questions submitted to the Minister and through other Parliamentary channels. The Authority would indicate the general lines of operational policy and development which should be followed by each board and would require detailed operating returns and programmes to be submitted regularly by each Board for scrutiny and comment. It would have a particular responsibility in securing a rates and fares structure for transport as a whole which reflected the fact that transport was being operated as one co-ordinated system. It would, in addition, be responsible for those services which were required in common by all sections of the industry, such as finance, insurance, training, research and development,

and centralised purchase of stores. The report states that with a unified transport system the historical and legislative reasons for the present mixed rates structure would no longer apply, and it would be the responsibility of the national transport authority to ensure that traffic was carried by the form of transport which was most economical for the community. It adds: "The capital structures of the separate services being merged in the national transport authority and the degree of track maintenance, etc., having been determined on economic and strategic grounds, traffic must be taken as far as possible by the service which shows the lowest net operating costs. It is apparent that there are very good reasons in the way of economies of operation for the further co-ordination of the railways. We therefore propose that the unified control of the railways achieved during the war shall, by their acquisition, be made permanent and developed, and that their administration shall be vested in a railways board."

It is contended that the directorates and capital structure could be unified to show considerable economies; research and development work of all kinds could be more efficiently carried out; standardisation of equipment could be developed to show economies much greater than those secured during the war and would permit the railways' engineering works to specialise to a higher degree; and development work could be more effectively undertaken to improve the amenities and comfort of railway stations and to modernise the methods of handling goods. It is also suggested that the operation of a co-ordinated railway system in harmony with road services would enable stations proved to be uneconomic to be closed down and road services to be improved and developed as feeder services for long distance transport by rail, and that the complete co-ordination of the railways would make it possible for electrification to be considered more comprehensively."

Road passenger services it is proposed, should be co-ordinated in transport areas which would have a high degree of regional autonomy, with representatives of local authorities organised transport workers, and of consumers. The London Passenger Transport Board would be acquired, and retained as one unit—at any rate for a time—and administered by the Road Passenger Transport Board; suitable changes would be made to its organisation and the constitution and appointment of its governing body.

Of inland airways, the report says: "The proposals of the Government White Paper envisage the formation of a British-European Corporation to operate internal and European routes for which the share capital will be provided by the railway companies, the short sea shipping lines, the travel agencies, the British Overseas Airways Corporation, and such other pre-war operatives as desire to participate. The acquisition of the railways would provide a public financial interest in the corporation. The necessity for the rapid development of air transport in the public interest and its tremendous strategic importance, however, require that a more positive line be taken."

The proposals at least are comprehensive, but it is by no means clear what the standard of efficiency is to be, in the absence of competition, and the only safeguard provided would be the responsibility of the authority of the Minister to Parliament. To some that may seem sufficient, and even if it is agreed that a measure of co-ordination of transport has been developed during the war, there is no means, as yet, of knowing whether the results achieved have been on an economic basis, as would be essential in the case of free enterprise under peacetime conditions. The economies to be achieved under a unified transport system may not be as great as the General Council hopes, and in any case might well be secured at the cost of removing from the public and the trader the right of choice as to method of travel or of consigning goods. Hitherto, the factor of competition has been of very real value to the trader, and this would disappear under a State monopoly.

T.U.C. Report on Public Ownership

WHEN the Trades Union Congress opens in Blackpool on September 10, it will have before it a memorandum on the financial aspects of nationalisation, with special reference to transport, which a joint committee of the General Council has prepared. From the viewpoint of railway stockholders, this memorandum is of particular interest, as it may form the basis of policy by the Labour Government, in the event of its proceeding to put into practical form its long advocated policy of railway nationalisation. The memorandum is to be submitted for adoption

by the Trades Union Congress "subject to modification in the light of any comments made by the Labour Party, to which it has already been submitted."

The memorandum finds that the most satisfactory basis of valuation for compensation in respect of an undertaking to be nationalised is reasonable net maintainable revenue. "Maintainability" is recognised as "perhaps the most important element of the assessment of compensation." It points out that actual revenue over a number of years has formed the basis of compensation paid during the war for the transport services taken over by the Government for direct operation, and adds that, for acquisition by the State, compensation might be based conveniently on the basic net revenues already agreed. Negotiations would then be confined to the number of years by which these net revenues should be multiplied, to obtain the total compensation. Presumably in answer to some internal critics of the Labour Party, the memorandum states that objections of excessive generosity, on the grounds that the relevant (railway) net revenues are for 1935-37 (excluding the lower figure for 1938), apply with less force where outright acquisition is concerned, "for excessive basic net revenue will inevitably result in decreased maintainability, and would consequently be offset by a reduction in the number of years' purchase at which the revenue is capitalised."

It is held that not the least factor in maintainability of revenue in the case of the highly regulated transport industry, is the likelihood of continuance of the statutory regulation under which an undertaking operates, and conferring a degree of monopoly subject to supersession by alternative legislation. The memorandum also deals with variation in maintainability for different sections of the transport industry. This, it holds, is "not necessarily the same for each railway company" and "it is clearly considerably less for a private bus company which has been earning 15 per cent. on its capital." Another factor to be considered is the extent to which physical assets have been kept in repair and up to date. The purchase price, it is suggested, should not include any allowance for economies expected to result from projected reorganisation, nor for the fact that the transfer is compulsory. Finally, "any direct or concealed subsidy from the State must be excluded."

The Act of Parliament, states the memorandum, which would be the legislative preliminary to the assessment of compensation would specify precisely what was to be acquired, provide for a national authority to take over on an Appointed Day, lay down the principles on which compensation would be based, and authorise the Minister to negotiate a compensation figure within these principles. It would set up a tribunal to approve voluntary agreement, or in default, assess compensation. The Minister would be authorised to make regulations for the conduct of undertakings in the industry not immediately taken over. The transfer should take place from the Appointed Day, whether the compensation details have been settled or not.

Compensation normally should be paid in the form of Government stock, and the national authority would be under the obligation to make annual payments to the Government equal to the interest on the approved capital value of the undertaking. As payment of compensation below what considerable sections of the public would regard as fair, would evoke opposition to transfer, it is recognised that the State may have to pay at least part of the valuation that is due to monopoly. Hence it is suggested that the capitalisation of the new authority should be computed apart from what has been paid out in compensation; the difference would be a separate charge on the national finances.

It seems clear from the memorandum that over-capitalisation of the acquiring authority is envisaged as a danger which might discredit the principle of nationalisation, because it might make impossible successful financial results "from an operational policy necessary on broader grounds of national policy."

The memorandum is opposed to the creation of specific amounts of various kinds of stock, and favours the issue of only one class of Government stock. It gives no guidance as to how compensation should be divided between the various existing classes of stockholder, but a phrase in it—"attempts to balance past dividends with future interest rates are out of place"—suggests that there is no intention of offering existing stockholders Government bonds which would produce income equivalent to their present holdings.

The general impression given by the memorandum is that in the practical interpretation which may be given to "reasonable net maintainable revenue," the tendency would be to qualify "reasonable" to such an extent that the maintainable revenue might become simply another way of saying "pre-war profits."

If, for example, the annual rental payable by the Government to the railways for wartime control were accepted, it would be equivalent to fixing the terms of compensation on the basis of 1939 values, and would leave out altogether the probable increase in the ultimate post-war price level, which will probably amount to at least one-third and more probably to one-half. In any event, in a matter of this kind it could equally well be argued that not past earnings so much as prospective earning power would be a reasonable basis for fixing a market value. The reference to objections of excessive generosity in the fixation of net revenues for 1935-37 as the basis for the control rental will sound strangely in railway stockholders' ears, for the rental payments often enough have been criticised as being a hard bargain on the part of the Government. Indeed, the memorandum gives the impression of a desire to reduce fair compensation to its finest limits, or even to go a little beyond that. If the proposals it contains are brought before Parliament in anything like their present form, there is no doubt that they will be very searchingly debated, and although, with its present majority, the Government no doubt could force the adoption of any proposals it may make, in any event it would have to do so in the full light of the criticisms which undoubtedly would be raised against it.

Railways: Censorship: Wartime Traffic

DURING the past week or two, censorship of newspapers and trade and technical journals in this country has virtually ceased (it was finally discontinued on September 2), and from August 25 it is no longer necessary to make special provision for the export of such publications. As we have pointed out in the past, submission to censorship was voluntary, and there was no penalty for not submitting anything to the censor. An Editor could publish what he pleased, and, though he risked prosecution under the Defence Regulations if he disclosed information of value to the enemy, he was entitled to be acquitted (even if he published information that had been stopped by the censorship) provided he satisfied the Court that it was unlikely that the efficient prosecution of the war had been prejudiced. Altogether there were 665,500 submissions to the censorship, totalling about 183,000,000 words. Only four of the 400,000 separate issues of newspapers published during the war in Great Britain occasioned prosecutions, and all four cases were disposed of summarily in a Magistrates' Court. None was sufficiently important to be taken to a higher Court; and it was only in 20 other cases that the infringements of the censorship rules were sufficiently serious for the question of prosecution to be considered.

As the British railways provided the main lines of communication for the many and complex movements which culminated in D-Day, many of their wartime activities of necessity have been regarded as secret, especially those relating to traffics by unusual routes, and the provision of such routes to meet wartime needs. In recent months various figures have been released giving a quantitative impression of the volume of wartime traffic, and this week we are able to publish the first of two articles on some of the new works for handling such traffics. As a result of a pre-war survey, many schemes were taken in hand in the early days of the war to give relief to those routes over which traffic saturation point might soon be expected to be reached, and to provide alternative routes as a safeguard against undue delay should important sections of line be damaged by enemy action.

The article on page 242 deals with the various junctions and connections that provided alternative routes avoiding the Metropolitan area, and similar works in Devon. Our second article is planned to deal with quadruplings and doublings of sections of railway to increase line capacity, and with various emergency provisions. Many of these have been described and illustrated in *The Railway Gazette*, without indication of location, and they provide excellent examples of that voluntary co-operation which justified the striking tribute to Editors paid the other day by the Press Censorship. This said: "Most of them were short-staffed and overworked, but as a body they willingly went into partnership with the censors to prevent any possible breach of security." Thus, a fairly good picture was given to what was happening in Great Britain, but some details were left out of the picture until they were no longer of any use to the enemy. With British railways, many such details could not be given with safety while the war in Europe lasted. There was no general ban on the export of newspapers, which reached Berlin by air through Stockholm or Lisbon soon after publication. In the case of *The Railway Gazette*, we had evidence during the war that it was reaching Germany regularly (including quotation from our

columns on the German radio), and up-to-date files have since been found in Reichsbahn offices. It was therefore particularly incumbent on us to exercise care, and we now welcome the opportunity of recording something of the new works, undertaken by the railways on behalf of the Government, and at Government expense, which heretofore have been on the "secret list."

Railway Rates in the United States

CRITICS of American railway rates are causing the railway companies in the United States a good deal of concern at the present time. In our June 29 issue, we dealt with the Interstate Commerce Commission's call for changes in rates designed to form part of the long-range programme of the Commission to bring about uniformity of classification and a prescribed scale of class rates. The adjustments which, in general, mean a 10 per cent. increase in class rates on the eastern lines and a decrease of 10 per cent. on the southern and western lines, have been described as interim changes pending the establishment of a uniform freight classification to be effective throughout the country. At the same time the railways have to contend with demands for equalised mileage charges and also developmental rates, which are the antithesis of the mileage principle.

In a suit brought by the State of Georgia in the United States Supreme Court, it is contended that the freight rates Georgians are required to pay are higher per mile than the rates charged to consignors or consignees elsewhere. In this suit the Department of Justice has been participating, and Mr. John Dickinson, General Counsel to the Pennsylvania Railroad, in an article in our American contemporary, the *Railway Age*, describes the case as an effort to have written into law a different conception of rate-making and rate relationships to that which has been followed hitherto by the railways, and accepted and applied by the Interstate Commerce Commission. For nearly sixty years American railways have been regulated by the Commission and have believed that they were complying with the law and with the policy of the Federal Government when their practices had the Commission's approval.

The public, either in this country or in America, has no clear or well-informed ideas about so technical and complicated a matter as railway rates, but the man in the street can be made to have ideas about subjects on which he has very little knowledge. When an issue is brought into the field of political controversy, popular and uninformed ideas often have a great deal to do with the outcome, for they are the raw material on which political action operates. This is an essential weakness of democratic government, in administering a system of widespread regulation. Mr. Dickinson is concerned because the Department of Justice has been making an appeal, and giving expression to certain ideas about railway rates which are likely to evoke a sympathetic response on the part of those who have not given special thought or consideration to the subject.

In the Georgia suit, it is contended that railway rates to be just and non-discriminatory, should be the same per mile all over the country and between all points in the United States. There is also a second theory, which again has a popular appeal. This is that rates should be so made as to encourage the industrial development of parts of the country not hitherto industrialised. It is in support of these two principles of rate-making—that of the mileage rate and that which may be called the industrial rate—that the Department of Justice in the Georgia case seeks to over-ride the jurisdiction of the Interstate Commerce Commission, and effect major readjustments in the existing American railway rates structure. Taking first the principle of the uniform mileage rate, Mr. Dickinson points out that although in the abstract it may seem reasonable, it will entail serious practical disadvantages. The first of these is that it would contract and restrict the sources of supply available to consuming centres by making it prohibitive for them to obtain the output of more distant producers. Also, it would restrict the opportunities of producers by excluding them from distant markets. Thus it would not only reduce the total volume of freight transported, and thereby tend to necessitate a general increase in rates to meet the cost of transport, but all over the country it would tend to give local industries a practical monopoly of local markets, instead of promoting the free flow of commerce.

At the present time the average rate per ton-mile on all freight carried in the United States, which broadly approximates the total cost of freight and transport spread evenly over all commodities on a mileage basis, is approximately one cent a ton-mile.

If this rate were applied as a uniform rate between all points in the United States, the rate on lumber from Waycross, Georgia, to New York, now 40 cents per cwt., would be increased to 46 cents, but the rate from Seattle, Washington, which is now 82 cents, would rise to \$1.44, that is to say, the western lumber, instead of paying about twice as much as the southern lumber, would pay more than three times as much. The export rate on wheat from Chicago to eastern ports would have to be increased from 17½ cents per cwt. to 44 cents, which would take more than 16 cents a bushel out of the pockets of western farmers. At the same time the export rate on wheat to New York from Pennsylvania and Maryland, which at present is substantially the same as from Chicago, would show sharp variation on a mileage basis. The rate from Chicago would rise by 27 cents per cwt. and the rate to the Maryland and Pennsylvania farmers would fall by 10 cents, thus creating a differential of 37 cents against the West, in comparison with the competitive equality which now exists.

A new source of sectional controversy is emerging from the ambition of the Mountain and Pacific States of the West to become a centre of manufacturing industry. Efforts are being made by political spokesmen to obtain readjustments in railway rates which will promote its industrialisation. These efforts can take only one direction, that of bringing about a reduction of rates in relation to mileage, which will permit distant producers to place their products where the demand exists in the markets of the South and East, at a sufficiently low transport cost to enable them to compete with the nearer producers. If the State of Georgia and the Department of Justice, therefore, are correct in their contention that rates should be fixed for the purpose of promoting industrial development, Georgia would have to submit to the abandonment of the distance principle, so that her markets might be opened to the competing products of other states which are also ambitious of development.

To meet the needs of all communities, some compromise has to be adopted in the making of railway rates, which would be impossible if either or both principles were adopted as legally compulsory rates of rate-making, for such a compromise cannot be expressed in a legal formula. It has to be a matter of administrative adjustment and, as such, it is precisely the kind of matter which has been committed by Congress to the Interstate Commerce Commission. To ignore the cost of service principle for the purpose of equalising transport rates between sections, would be to say in effect that certain sections of the country should be subsidised at the expense of the railways which operate in those areas.

For the procedure which is adopted by the Commission, the Department of Justice proposes to substitute the fixation of rates without the previous discussion by the rate bureaux and conferences which the railways have always used as an aid to the process of making rates. The Department's objection to the bureaux is that they involve conferences and consultations between competitors, and that this, at least with respect to prices or rates, is forbidden by the anti-trust laws. The railways have used the practice of consultation ever since their rates have been controlled by the I.C.C. for the purpose of giving preliminary consideration to proposed rate changes and to the bearing of those changes on the rate structure. The conferences are not agencies for making final and binding decisions as to rates. Under the procedure suggested by the Department of Justice, there would be no intermediate stage between rate decisions by individual railways acting in isolation, and ultimate appeals from those decisions by traders or other railways to the Commission. Every case in which there was an initial difference of opinion would have to go to the Commission, whereas at present it might be ironed out by preliminary resort to the conference method. On the other hand, if rates were to be made by direct negotiation between an individual trader and a particular railway, instead of as at present being first submitted to a comparison with those of other traders, other localities and other railways, the trader or the railway with a small bargaining power would at once be placed at a disadvantage.

The guiding principles hitherto adopted in the railway field have been the preservation of equality, the removal of discrimination, and the maintenance of relationships based on concepts of justice and equity, which have no relation to bargaining power or strength. Mr. Dickinson concludes if the Department of Justice should succeed in throwing open the railway industry to the unrestricted operation of competition, and in making railway rates primarily responsive to competitive forces, there would be no possibility whatever that rates would be made in conformity with the principles of mileage or of industrial development.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Indian versus American Railway Efficiency

India, August 6

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Articles have recently appeared in the Indian Press describing the wonderful work done by the Americans since they took over the metre-gauge system of the Bengal & Assam Railway, or a greater part of it—followed by a rather pathetic letter from a B. & A.R. man, reminiscent of the story of the organist and the organ-blower, to the effect that nothing could have been done without a ferry worked by B. & A.R. staff. Unfortunately, as Mr. Sherlock Holmes would have said—"they are both wrong."

The measure of efficiency of movement of goods wagons is the average number of miles a wagon moves in 24 hours. It is true that this figure on the metre-gauge system of the B. & A.R. has risen from 19.8 to 34.9. But the Bombay, Baroda & Central India Railway has put up records during the war years, which, according to a recent article in the *Statesman*, "are the highest ever reached by any railway in the world with a similar mileage," namely, more than 80 miles a day on its broad-gauge, and more than 90 miles a day on its metre-gauge system. It may interest your readers to know that, given proper guidance and organisation, Indian railwaymen can be the most efficient in the world.

Yours, etc.,
AN INDIAN RAILWAYMAN

"N or M"

London, S.W.1. August 30

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Major R. M. Robins' letter in your issue of August 31 raises a point in the matter of the nomenclature of locomotives which will commend itself to many locomotive enthusiasts. Many of us have viewed with regret the increasing tendency to name locomotives after bodies or institutions which are extremely remote from the purposes of locomotion and which, to say the least of it, must appear out of place when appended to railway engines.

All too often it would seem that the present tendency in locomotive naming is to flatter, by the adoption of the name, some local association or business connection of the railway company. The "Hall" class of the G.W.R., the "Schools" and "Merchant Navy" classes of the Southern Railway, the "Jubilee" class of the L.M.S.R., and the "Loch" and "Shire" classes of the L.N.E.R. are outstanding examples of the immovable object being attached at least by name to what should be almost an irresistible force.

I agree with Major Robins that ordinary consistency would call for the adoption of names for locomotives which signify power, speed and movement. He gave some examples of those used on the old London & North Western Railway, which was particularly rich in nomenclature of this kind. *Ariel*, *Swift*, *Petrel*, *Greyhound*, *Mercury*, and *Mayathon* all convey the impression of movement and urgency. *Leviathon*, *Hercules*, and *Mammoth* gave the impression of power and endurance. Some of the most attractive ones were included in the "Lady of the Lake" class, of which the following is a list:—

Saracen	Monarch	Locke
Scorpion	Mazeppa	Red Gauntlet
Prometheus	Stephenson	Tornado
Erebus	Prince of Wales	Soult
Harlequin	Lady of the Lake	Waverley
Tantalus	Prince Oscar	Havelock
Phosphorus	Palmerston	Victoria
Mersey	Combermere	Clyde
Atalanta	Majestic	Elgin
Russell	Napoleon	Faerie Queen
Tiger	Princess Royal	Edith
Peel	Princess Alice	Eleanor
Owl	Princess Alexandra	Alfred Paget
Cygnets	Prince Alfred	Pandora
Star	Lord of the Isles	Psyche
Problem	Marmion	Panopea
Leander	Ivanhoe	Daphne
Wellington	Outram	E. nomia
Lily	Clive	Fortuna
Watt	Ethelred	Egeria

Yours faithfully,

B. W. C. COOKE

Three Bridges. September 2

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I have read with interest the letter from Major R. M. Robins, R.E., in your current issue on the subject of present-day locomotive nomenclature. While one must agree with his point of view regarding the comparative heaviness of the appellations now used compared with those originally adopted to describe the celerity of the locomotive above all other means of transport then known one must also keep in mind the complete transformation which has taken place in the outward appearance of the machine itself. After the passing of the first crude models there was an era of construction in which the lines of some of the locomotives bore an elegant and delicate appearance and were a delight to behold.

Comparing the appearance of these lightly constructed locomotives with the substantial streamlined locomotives of today one finds the difference in appearance as that between a thoroughbred racehorse and a shire. Therefore the question arises whether it would not be a gross misnomer to christen the modern mammoths with the names previously applied to the slim looking locomotives of the London & North Western Railway which displayed and correctly answered to such nameplates as *Shooting Star*, *Comet*, *Lucifer*, *Wasp*, *Wizard*, *Torch*, *Quicksilver*, and so on. It will be interesting to read other readers' opinions on the subject.

Yours faithfully,
R. C. HENEY

Railway Traffic in Germany Today

13117561, Spr. H. Godwin,
D. Coy., 21. A.Gp. (M) H.Q.
B.L.A. August 13

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—As I am stationed on an important trunk line between Hanover and Bielefeld, I have opportunities to observe much of the traffic passing. There are our leave trains, comprised mainly of Belgian coaches; heavy goods trains, drawn by camouflaged German 2-10-0 locomotives; and an enormous number of trains taking displaced persons back to their homes. The trains carrying Russians often display flags and portraits of Stalin on the smokebox door of the engine. Scant attention is paid to loading-



The locomotive number plate



A wagon bearing label in English and German

gauge restrictions, as the flag poles frequently project as much as 3 ft., and men have even been seen travelling on the roofs of the vehicles.

All German engines, carriages, and wagons are now marked "Allied Forces," or "Allied Transportation Corps"; and an enormous amount of foreign rolling stock is in use. On a siding near Minden, I recently saw four French locomotives, one of which carried a small plate inscribed "Property of U.S. Government, No. 1804," in addition to the French numbering 3-S.N.C.F., 140 B.1197. It was a 2-8-0, built (presumably) by Baldwin's during the last war. I enclose a photograph of the number plate of one of these engines.

In order to speed up the turn-round of wagons, labels are printed in English and German. I also enclose a photograph of a wagon so labelled.

Yours truly,
H. GODWIN

The Scrap Heap

RADAR

Now the wonders of Radar have been disclosed may we express the hope that the 8.35 train to town will arrive punctually this coming winter even if there is a little fog about?—Messrs. E. Coard and L. H. Burrow in a letter to "The Times."

TRAINS SWEEPED AWAY

British United Press reports from Houston, Texas, under dateline August 28, that two trains on the Missouri Pacific system have completely disappeared in the tropical hurricane which has swept the Texas gulf. The railway company states: "Two of our trains are missing."

BABY FALLS FROM TRAIN AND LIVES

Frederick Carter, aged 2½, fell from the Sheffield-York express as the train was approaching Mexborough. His mother pulled the alarm signal. The train pulled up at the station and in a few minutes the baby was in his mother's arms. Freddie had picked himself up after his fall and was walking along the line when he met a shunter, who carried him to the station.

L.M.S.R. HOUSING IN HAMBURG

A correspondent writes of having seen recently in the goods yard at Hamburg-Altona, Germany, a bogie passenger vehicle that was of unmistakably British origin, though painted in standard German dark green and bearing the German number "Berlin-946847P." It bore a date plate "L.M.S. Derby 1929," and the customary small end-plates lettered "27 T. 57 ft. x 9 ft. 3 in.," the axle-boxes were stamped "L.M.S." and the channels of the underframe were branded "Mossend Steel," indicating that they had been rolled at Beardmore's Mossend steelworks (since closed). The coach had centre doors only, but as it was in occupation of a German family, interior inspection was not possible. It would be interesting to know how the vehicle came into enemy hands.

100 YEARS AGO

From THE RAILWAY TIMES, Sept. 6, 1845.

RAILWAY ADVERTISING AND PRINTING
OFFICES, established nearly forty years.—W. DAWSON AND SONS, Agents for Advertisements and Subscriptions for the "RAILWAY TIMES," respectfully remind all Railway and other Companies, Solicitors, &c., that they insert Advertisements in all the railway and general newspapers both in London, the country, and abroad, with all that care and promptitude which has gained them so large a share of public support during so very many years.

The list of all the papers of the United Kingdom, with politics, in different-coloured inks, publishing days and places, yearly advertisement duty and circulation, price 1s., stamped for post 1s. 2d.

Files of all the railway papers and of the daily Times, &c., kept for inspection.
74, Cannon-street, City, London. Established 1809.



"Yes, we ought to have been back home days ago, only that the trains always seem to draw up so that we're opposite a luggage-van"

(Reproduced by permission of the proprietors of "Punch")

PEACE AND "SECURITY"

In a few hours time President Truman will announce, officially, to the American people and the world that the war is at an end. This is great news, but it would seem doubtful if this now well-established fact will ever penetrate the blast-walls still standing around our Ministries. For them, or at least to all outward seeming, the war still rages, and they must be guarded against its dangers.

Government buildings in London are hedged around by almost impenetrable walls of futile "security." The wartime rigmarole of procedure persists. Visitors calling on public servants at Government offices must abase themselves before various officials and even armed police officers before being admitted. In most departments there are three or four men employed to supervise the rites a visitor must observe.

Forms must be filled in. A relay of messengers escorts the caller to the official he is seeking. When his business is transacted he is not allowed to leave until his pass has been signed. If the official he wished to see is out, some other official must be found to sign it. Often busy men who have neglected this empty formality are sent back by the doorkeepers. And at the door large notices still proclaim: "All passes must be shown!"

Even at such places as the Ministry of Information the same rigid procedure obtains. Newspaper men who do not possess passes admitting them to the building daily must fill up the proper forms. There is a strong case for the abolition of this Ministry, the case for doing away with this senseless "security" is unsalable.

The Board of Trade is still taking no risks. Maybe in the heated imaginations of this staid body enemy assassins still abound. At a conference with Sir Stafford Cripps reporters were made to sign a form stating the names of their newspapers. This solemn rite performed, they were given tickets, to be handed back at the portals before they could leave the building.

The procedure at the Ministry of War Transport is even more inexplicable. A messenger ushers the caller to the required floor. There he is handed over to another, who decorously escorts him down a corridor to the office required. But although there is the usual business with passes, by some oversight in the security precautions, the visitor can depart unguarded.

Nor is the B.B.C. less vigilant. It will perhaps need a Victory Parade to convince our officials that the war is over. Maybe then they will realise that their visitors are generally busy men with work to do and little time to spare on time-wasting form-filling and all the rest of this unwanted and unnecessary "security."—From "The Evening Standard."

RAILWAY QUESTIONS AND ANSWERS

Statement: How could co-ordination of transport be secured by Parliament under private enterprise?

Answer: Parliament could not, by passing an Act, co-ordinate the millions of daily functions of transport. It could give general directions to a body of civil servants to do so, but whether they would succeed is another matter. Despite the difficulties due to the differences in treatment applying to railways, some co-ordination already exists with other forms of transport and much between the railway companies. It is reasonable to assume that with equality in the treatment of all forms of transport, there would be a considerable extension of co-ordination with them. This does not necessarily imply that a take-it-or-leave-it monopoly would result, because a public utility service, such as the railways, should still be required to provide reasonable facilities with a readily accessible tribunal available to hear unsettled grievances.—From "Answers to Questions and Statements," issued by the British Main-Line Railway Companies, 22, Palace Chambers, London, S.W.1.

BRITISH FOOD TRAIN

The first British food train arrived in Vienna on August 28, bringing in 450 tons of meat, flour, sugar, potatoes and coffee.
—From "The Evening Standard."

In recognition of the distinctive and modern style used by the company in the preparation of its last annual report, the Canadian Pacific Railway has been accorded a "highest merit award" citation in this year's annual survey of stockholder annual reports, by *The Financial World* of New York. The citation, which appeared in a recent issue of *The Financial World*, certifies that the company's 1944 financial statement was judged as "among the most modern from the standpoint of content, typography and format of the 1,250 annual reports examined during 1945."

WORK

I am the foundation of all business.
I am the source of prosperity.
I am the parent of genius.
I am the salt that gives life its savour.
I have laid the foundation of every fortune.
I can do more to advance youth than his own parents, be they ever so wealthy.
I must be loved before I can bestow my greatest blessings.
Loved, I make life sweet, purposeful, fruitful.
I am represented in the humblest savings and in the largest block of investments.
All progress springs from me.
I am Work!—From "Stories from Aberdeen" by Peter Esslemont.

TAILPIECE

(It has been suggested that classes of locomotives should be named after living things, not immovable objects.)

Some say it is a good idea—and others say "Erratic!"
To class our locomotives under names that are not static,
Not counties, towns and continents and such immobile things,
But birds and beasts and persons, and roundabouts and swings.
Some say our engines should be named—and others won't agree—
After the speedy movers of earth and air and sea—
The albatross, the thunderbolt, the golf or cricket ball,
And how about the atom, the quickest thing of all?

E. C.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

INDIA

Rolling-Stock Programme

At a recent meeting of the Railway Standing Finance Committee, a rolling-stock programme was approved involving a total expenditure of Rs. 23.57 crores (£17,677,500) in 1946-47, of which Rs. 19 crores was carried forward. The new items, the aggregate cost of which is estimated at Rs. 4.57 crores, are 20 locomotives; 181 boilers; 983 carriages; 219 wagons; and one steamer. Of these, 14 boilers and 128 carriages represent additions, and the remainder replacements.

The building of carriages is subject to the availability of timber and underframes, except where stock is to be built on old underframes. Priority will be given to lower-class stock. Of the 1,933 carriages (in term of 4-wheelers), 128 will be electric multiple-unit suburban stock and 765 ordinary lower-class stock.

Among other items approved by the committee was the machinery programme for 1946-47, involving Rs. 217 lakhs (£1,627,500).

State Railways in 1943-44

The Public Accounts Committee, which commenced its sitting in Delhi on August 13, has concluded its examination of the appropriation accounts of the railways for 1943-44.

At the end of the year under review, the capital at charge of Indian State Railways stood at Rs. 781 crores (£585,750,000); the amounts in the depreciation fund and the railway reserve fund were Rs. 92 crores and Rs. 22½ crores, respectively.

The committee also reviewed the working of the grain shops, which were opened by the railways in 1942-43 to provide their employees with food at a reasonable cost. At the close of the year 1943-44, the number of grain shops was about 600, and the number of ration-card holders, 800,000. Sales during the year amounted to Rs. 11 crores.

SOUTH AFRICA

The "Sturrock Dock"

The new graving dock at Capetown will be opened officially on September 18 by His Excellency the Officer Administering the Government, the Right Hon. N. J. de Wet, P.C., K.C.

On the recommendation of the Cape Town Harbour Advisory Board, the dock will be named the "Sturrock Dock" in recognition of the services to South Africa of the Minister of Transport, Mr. F. C. Sturrock. The final arrangements for the construction and equipment of the dock were negotiated by Mr. Sturrock in London during 1942.

The total cost of the graving dock will exceed £3,500,000 and, together with the Duncan Dock, it makes Cape Town one of the best equipped harbours in the world, capable of handling every type and size of ship. No graving dock in the world exceeds the one at Cape Town in all its dimensions. It is built to the most modern design and can readily be adapted to any size of ship.

Traffic Increases

In loading 85,953 wagons during the week ended June 9, the South African Railways achieved a new record which slightly exceeded that set up in August, 1944. The demands of the livestock traffic for wagons continued at a high level during

June. The daily average ordered exceeded 1,380 wagons, which was in excess of those available. Wagons loaded with livestock during the week ended June 9, totalled 5,003 as against 4,063 during the preceding week. The movement of poor stock from the Hutchinson-Calvinia section, and also in the Upington area absorbed 80 wagons a day.

The cold weather in recent weeks has resulted in considerably increased coal consumption. Equally insistent demands on rail transport have been made simultaneously by livestock traffic, imports which had to be moved inland, maize, sugar cane, perishables, and citrus fruits. Passenger traffic remained heavy, and special trains had to be operated for returning prisoners-of-war. The demand for railway goods services was the highest in the history of the South African Railways, and orders for wagons could not be met in full owing to limited rolling stock resources.

In June, 329,181 wagons were loaded which exceeded the number for the corresponding period of last year by 13,836 but demands could not be met fully. Lack of sufficient engine power was one of the main problems. Shipment coal delivered at the ports during June amounted to 335,584 tons, an increase as compared with the corresponding month of last year.

UNITED STATES

A New Shay Geared Locomotive

On certain American lines with extremely steep gradients and sharp curvature, such as branches serving timber mills or mines in mountainous country, use is still made of the curious Shay geared locomotives, of which a new example, with 200 lb. pressure and a tractive effort of 59,740 lb., has been delivered recently by the Lima Locomotive Works to the Western Maryland Railway, for use with other Shay locomotives on adhesion-worked grades as steep as 1 in 10.

The new locomotive has three cylinders, arranged vertically alongside the firebox and driving a flexible horizontal shaft. By means of spur-and-pinion gearing this shaft communicates its drive to six pairs of wheels, arranged in three bogies, one at each end of the main engine-frame, under the smokebox and bunker respectively, and the third under the water-tank, which is articulated to the rear end of the engine-frame. The cylinders and valves are mounted on a heavy frame independently of the boiler. The barrel of the last-mentioned inclines sharply upwards from smokebox to firebox, to help in maintaining an even distribution of water when the engine is climbing very steep gradients.

Recent Train-Service Accelerations

Considerable accelerations, the first since the United States became involved in the war, were announced by the Illinois Central System for certain of its long-distance trains from July 1. The schedule of the "Daylight," between Chicago and St. Louis, was reduced from 6 hr. 40 min. southbound and 6½ hr. northbound to 6 hr. in each direction; the train now leaves St. Louis at 12.5 p.m. and Chicago at 11.20 a.m. The southbound "Seminole" from Chicago to Florida coast resorts now leaves at 10.25 instead of 9.30 p.m., and is accelerated 55 min. Between Chicago and Sioux City, the "Iowan" has been speeded up by 30 min., and 15 min. each way is cut from the schedules of the "Land o' Corn" between Chicago and Waterloo, and the

"Sinnissippi" between Freeport and Chicago.

On the Chicago, Rock Island & Pacific Railway, the opening of the new Harry S. Truman bridge at Kansas City by the Rock Island and Milwaukee companies, together with the partial completion of the Rock Island's \$12,000,000 line-improvement programme between Davenport, Iowa, and Kansas City, involving new roadbed and track for 100 miles, has already permitted a substantial improvement in the times of the "Golden State Limited" between Chicago and Los Angeles. The start from Chicago is now at 9 p.m. instead of 8 p.m., and the arrival in Kansas City at 8.50 a.m. the next day; the entire 60 min. is picked up later, and the arrivals in California remain as before. The run of the same company's "Texas Rocket" streamliner, between Kansas City and Oklahoma City, from June 3 has been extended to Fort Worth and Dallas, Texas. Leaving Kansas City at 9.10 a.m. in connection with the "Golden State Limited" from Chicago, it reaches Fort Worth at 9.30 p.m. and Dallas at 10.30 p.m.; return is from Dallas at 8 a.m. and from Fort Worth at 8.45 a.m., reaching Kansas City at 9.20 p.m. The journey of 627 miles thus takes 13 hr. 20 min. each way.

PERU

Post-War Railway Extension Plans

Traffic was restored on the Chimbote-Haullanca railway on March 12, 1945, after the completion of repairs to the section damaged by the Huaraz flood in 1941. Post-war development work being studied includes connecting the Southern Railway of Peru with the new port at Matarani; extending the railway northward from Cuzco; extensions of the Chimbote railway to Huaraz and Recuay; and the extension of the Huancavelica line to Castrovirreyna.

SWITZERLAND

Resumption of Goods Traffic Abroad

Despite a shortage of rolling stock, Swiss goods traffic with France, the only country with which Switzerland has been able to resume regular railway services since VE-Day, is expanding. Contrasting with the intermittent railway connections with France early in the year (which enabled Switzerland to import through France daily averages of 100 tonnes in February, and 1,000 tonnes in May) it had risen to 1,750 tonnes a day in July. Regular goods services are now being operated between Switzerland and the French ports of Bayonne, Port-Vendres, Saint-Louis-du-Rhône and Port-de-Bouc.

Negotiations are in progress with Italy to obtain the use of Genoa and Savona, ports which are much nearer to Switzerland than the above French ports. The use of Genoa and Savona, however, will not dispense with the use of the French ports.

Negotiations are also in progress with a view to resuming railway traffic with Czechoslovakia, Austria and Germany. The extent to which Swiss goods traffic with other countries has declined, may be gauged by the fact that, whereas in the years 1935-1938, Switzerland imported a daily average of 28,000 tonnes, this average did not exceed 1,500 tonnes in the first quarter of 1945. Exports averaged some 2,000 tonnes a day before the war, against a daily average of only 370 tonnes in the first three months of 1945. Transit traffic is practically non-existent at present; before the war it reached an average ranging from 12,000 to 20,000 tonnes a day.

Recent Locomotive Designs

A comparison between the British-built austerity 2-10-0, American-built austerity 2-8-0 and proposed 2-10-0 locomotive for the Central Uruguay Railway

By Thompson Fairless, A.M.I.Mech.E.

ARTICLES have appeared in the technical press from time to time referring to the trend of locomotive design; this subject has been treated under diverse titles, and added interest now has been created by an editorial article in *The Railway Gazette* of February 9, an extract of which reads as follows:—

"...But this is certain—British loco-

have an American flavour, especially that of the Central Uruguay Railway proposed locomotive with respect to its bar frames and spring gear arrangement.

The "pull-speed" curves are shown in Fig. 1 for these three designs of engines, and the particulars pertaining to the fundamental factors are calculated in accordance with American practice. These "pull-

the "rated tractive force" of a locomotive is of no value except at starting speeds.

The percentages of the rated tractive forces—at the rim of the driving wheels—for the three designs respectively, are shown in Fig. 2, these curves are derived from the "ratio values" of the rated tractive force (lb.) divided by the equated heating surface (sq. ft.).

By an "equated" heating surface is meant the amount of heating surface which would produce the same results if the locomotive used 21 lb. of steam per I.H.P. hour and evaporated 12 lb. of water per sq. ft. of heating surface and the steam had 150° of superheat, the resultant of these basic characteristics is subjected to adjustment in accordance with the figures corresponding to the locomotives under review by multiplying the total heating surface by the average evaporation per sq. ft. of heating surface divided by 12, the resultant of which is multiplied by the quotient of 21 divided by lb. of steam per I.H.P. hour for pressure and degree of superheat. "The rated evaporation per hour in lb." equals the direct H.S. in sq. ft. of firebox including arch tubes or syphons multiplied by 55 plus the indirect H.S. in sq. ft. of tubes and flues multiplied by a variable factor of evaporation per sq. ft. according to the length of the tubes and flues.

"The average evaporation of water per hour per sq. ft. of heating surface in lb." equals the rated evaporation per hour in lb. divided by the total evaporative heating surface in sq. ft.

"Steam per I.H.P. hour for pressure and degree of superheat" is obtained from the steam rates for various pressures and temperatures; the ratio of large to small tubes governs the degree of superheat.

"The boiler or potential horse-power" is the rated evaporation per hour in lb., divided by lb. of steam per I.H.P. hour.

Reference to the table on page 249, "fundamental factors of design" and the resulting "pullspeed" curves based on the method described, clearly indicate that from American standards the higher "rated tractive efforts" of the Central Uruguay Railway proposed design, and to a lesser degree that of the British-built austerity engines, is not maintained as the speed increases, in the manner which the "pull-speed" curve for the American-built austerity engines is

(Continued on page 249)

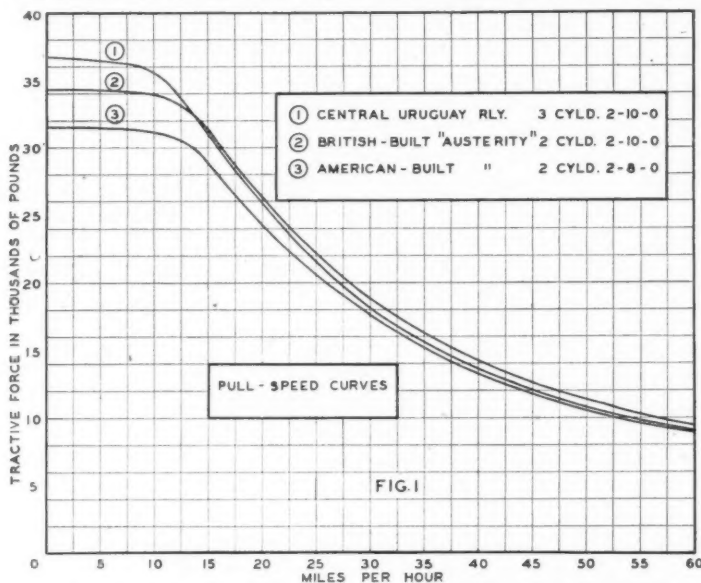


Fig. 1—The available tractive force at increasing speeds represented by "pull-speed" curves

motive engineers, although having nothing to fear as to the fundamental suitability of their own designs, could benefit greatly by according a closer study to American practice than has been customary in the past.

Because of the foregoing, it is proposed to make a survey of the basic features of two recent British designs, also that of an American design along the lines of American standards as used by The Baldwin Locomotive Works and described by Mr. Ralph K. Johnson, its Chief Engineer, a well-known authority on American locomotive practice.

To enable a fairly close appreciation of the basic features of these recent designs to be followed, locomotives with not very widely differing rated tractive efforts have been selected. These consist of the Central Uruguay Railway proposed 2-10-0, the British-built austerity 2-10-0, and the American-built austerity 2-8-0 locomotives, described and illustrated in *The Railway Gazette* on March 9, 1945, December 15, 1944, and December 11, 1942, respectively.

All these designs have much in common, and are intended for use on heavy-freight traffic, on 4 ft. 8½ in. gauge railways, the 2-10-0 types are both designed with a 13½-ton maximum axle-load. No comment is made on any constructional procedure, as it is well known that the austerity designs were produced to meet wartime conditions of manufacture, but this may be said, that both of the British 2-10-0 designs

"pull-speed" curves represent the available tractive force—at the rim of the driving wheels—at increasing speeds, and are the combined relationship of the cylinder-tractive force and the steaming capacity of the boiler; it must be remembered that

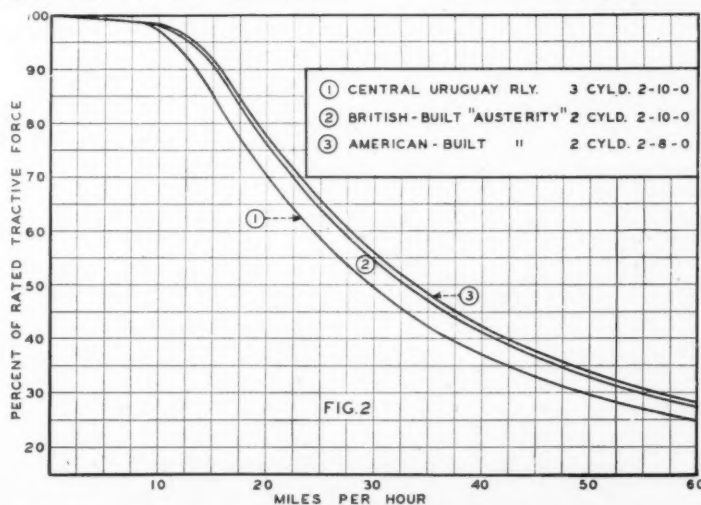


Fig. 2—Curves showing the percentages of the rated tractive forces at various speeds

Some New Works for Wartime Traffic—1

Junctions and connections to provide alternative routes, avoiding the Metropolitan area. Similar works in Devon

BEFORE the outbreak of war in 1939, the British railways jointly gave consideration to the many problems which might be expected to arise in dealing with war traffics. Among them was the provision of alternative routes to those used in peacetime conditions, in many cases involving proposals for the establishment of new inter-railway links. It was pointed out to the Government, however, that no effective steps could be taken towards the execution of the work, much of which would require many months to complete, until an indication was given of the Government attitude towards railways in the event of war. It may be recalled that, at the time of the Czechoslovak crisis in September, 1938, the Minister of Transport had appointed the Railway Executive Committee, under an instrument dated September 24 of that year, to advise the Government in connection with railway arrangements necessary in conditions of emergency, but, until the R.E.C. assumed its executive functions on September 1, 1939, under the Railway Control Order, it was entirely an advisory body, without authority to incur expenditure on Government account.

The preliminary survey proved of great value, and in the early days of the war the British railways embarked upon many large schemes designed to speed up war traffics, and to give relief to those routes over which traffic saturation point might be expected to be reached in the near future. Alternative routes were provided, and additional loop lines laid, to enable more traffic to be dealt with, and as a safeguard against undue delay should important sections of line be damaged by enemy action.

In later stages of the war, further schemes had to be elaborated, mainly in connection with the heavy flow of traffic in preparation for the invasion of the Continent, and for the maintenance of an enormous army in Western Europe. In this and a subsequent article we propose to outline something of these new works, which were undertaken by the railways on behalf of the Government, and at Government expense.

Broadly, the present article is concerned with the various additional facilities and new works that were provided in order to give alternative routes for traffic across the Thames, and, as is often the case with railway workings, the area affected was considerably wider than might appear to be necessary at first glance. Under normal conditions the following routes were used for the exchange of traffic between the north and south of the Thames:—

Route	Traffic exchanged by Southern Railway	
	Section from	Section to
Metropolitan Widened Lines	L.M.S.R. (Midland)	S.R. (Central and Eastern)
	L.N.E.R. (G.N.)	S.R. (All)
East London Railway	L.N.E.R. (G.E.)	S.R. (Central and Eastern)
West London Extension Railway	G.W.R.	S.R. (Central and Eastern)
	L.M.S.R. (Western)	S.R. (Central and Eastern)
North & South West Junction Railway and Kew East junction	G.W.R.	S.R. (Western)
	L.M.S.R.	S.R. (Western)
	L.N.E.R. (G.E.)	S.R. (Western)

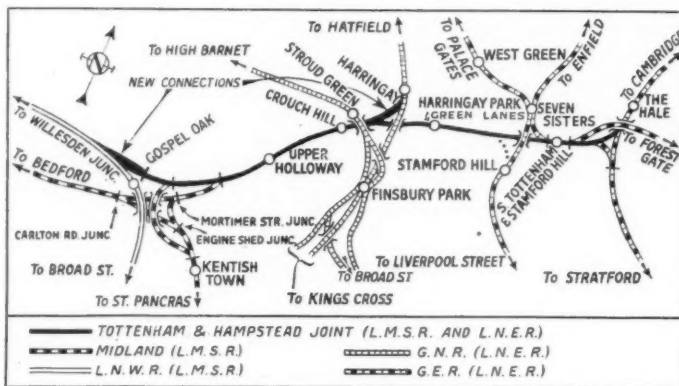
Before the outbreak of war consideration was given to the question of alternative

routes for traffic between the north and south of London, in the event of enemy action destroying the Thames bridges and/or the tunnel of the East London Railway, and the following schemes were formulated and brought into operation.

If the East London route were not available traffic could be diverted from the L.N.E.R. (G.E. Section) to the S.R. (Eastern and Central Sections) via Tottenham Palace Gates, Ferme Park, and the Metropolitan Widened Lines. A new connection was installed on November 20, 1939, by the London Passenger Transport Board just

connection was restored during the first World War, but subsequently was taken out.

The main alternative route for traffic to and from the Southern Railway system, without necessitating exchange through the London junctions, is over the section of the G.W.R. line through Banbury, Oxford, and Reading, or via the junction with the L.M.S.R. at Bordesley (Birmingham), Leamington, Yarnton (or Oxford), to Reading; and with the L.N.E.R. at Banbury Junction. The anticipated heavy volume of additional traffic made it necessary to consider new alternative routes for use in the event of it being necessary to avoid London entirely. It was agreed, therefore, that traffic for the S.R. Eastern Section from the L.N.E.R. (G.N. and G.E. Sections) and the L.M.S.R. system would be routed via Sandy, Bedford, Bletchley, Claydon, Cal-



Wartime junctions at Gospel Oak and Harringay

east of Kings Cross (Metropolitan Line) Station between the Widened Lines and the Circle Line. If both East London and Widened Lines routes were not available it would be necessary for the traffic normally conveyed by such routes to be transferred to other routes, crossing the river further west, and to provide for this contingency a single-line junction was provided at Harringay between the G.N.R. line and Crouch Hill on the Tottenham & Hampstead Joint Line, and a double-line junction at Gospel Oak between the Tottenham & Hampstead Joint Line and L.M.S.R. Hampstead Junction Line. Both were brought into use on March 11, 1940. By this means an alternative route was given from the L.N.E.R. (G.N.) to all sections of the S.R. via the Tottenham & Hampstead Joint Line, the L.M.S.R. Hampstead Junction Line, and either the West London Extension Line for the Eastern and Central Sections of the S.R. or the North & South West Junction Line and Kew East junction for the Western Section of the S.R. Provision of the junction of Gospel Oak also gave an alternative route from the G.E. Section of the L.N.E.R. to the Southern Railway and to the G.W.R., via the same routes. The alternative routes provided by these two junctions were of considerable value in dealing with the exchange of traffic between areas north and south of the Thames during the period of intensive air activity from September, 1940, to May, 1941.

Incidentally, a similar single-line connection at Harringay was built during the 1914 war, for special transfers and other emergency work, but was subsequently dismantled. Gospel Oak junction was laid originally in 1868, when the Tottenham & Hampstead Junction Railway was built. It was removed about 1870. The physical

vert, Staines Moor, Merstham, and Tonbridge. Traffic for the S.R. Central Section from the L.N.E.R. (G.N. and G.E. Sections) and the L.M.S.R. system would be routed via Sandy, Bedford, Bletchley, Oxford, Basingstoke, Eastleigh, and Chichester. Traffic for the S.R. Western Section from the L.N.E.R. would be worked via Sandy, Bletchley, Claydon, Calvert, Northolt Junction, and Staines Moor.

To provide these alternative routes for traffic from the north to the S.R. system, it was necessary to provide junctions at Sandy, Calvert, Oxford, and Staines Moor, and, in addition, to improve running facilities and yards at other points concerned. Sketch plans of these junctions are reproduced. It may be recorded that they were brought into use as follows:—

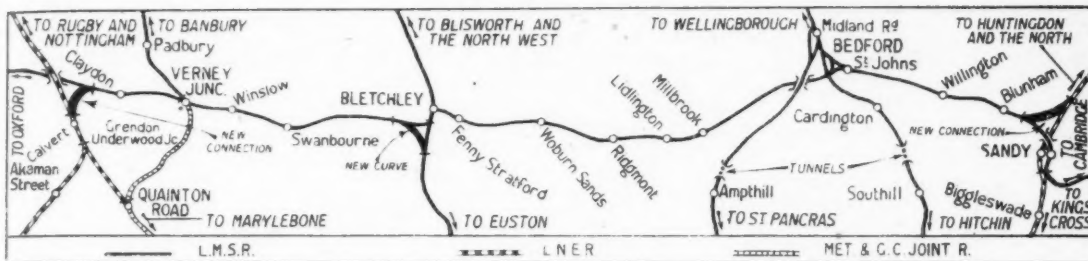
Sandy, a double-line connection from Tempsford, on the L.N.E.R. (G.N.) main line, to Blunham, on the Cambridge-Bedford-Bletchley-Oxford line of the L.M.S.R. September 13, 1940.

Calvert, a double-line connection from Claydon (on the Cambridge-Oxford L.M.S.R. line) to Calvert, on the L.N.E.R. (G.C.) main line, September 14, 1940.

Oxford, a direct running junction between the L.M.S.R. and the G.W.R. November 8, 1940. Previously the connection could be made only through exchange sidings.

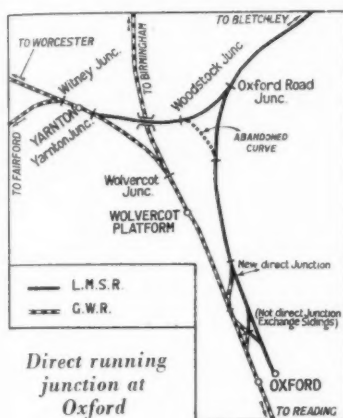
Staines Moor, a single-line connection between the G.W.R. and the S.R. September 15, 1940.

A subsequent work in connection with the L.M.S.R. Cambridge-Oxford line, not associated with the foregoing routings, was the installation of a single connecting line near Bletchley from the down fast main line from Euston curving towards Oxford. This was brought into use on August 31,



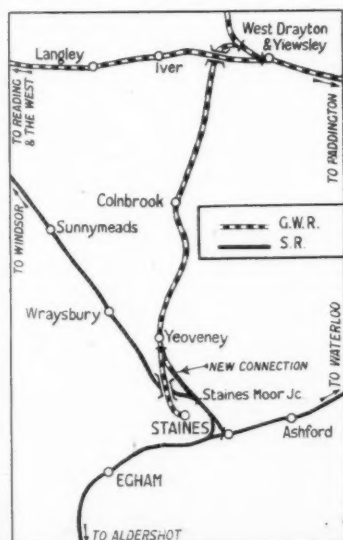
The 1940 connections between the L.M.S.R. and L.N.E.R. at Calvert and Sandy and the 1942 curve at Bletchley

1942. It is on the site of the historic "Worcester curve." At Bordesley (Birmingham) the goods branch connecting the L.M.S.R. and the G.W.R. was doubled on July 13, 1941.



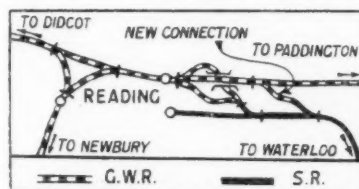
Direct running junction at Oxford

To facilitate interchange at Reading, and to obtain the maximum value from alternative routes through that exchange junction, a new spur line was established between the Southern Railway and the G.W.R. system on June 1, 1941, and by use of this connection alternative routes were available for traffic for the G.W.R. South



Link between the G.W.R. and S.R. at Staines Moor, part of a new north-south route

Lambeth Depot and the Battersea Power House in the event of the West London Extension being out of action. Further, traffic from the L.M.S.R. to the S.R.



Improved interchange junction at Reading

Western Section could also use the Oxford-Reading spur route in the event of the North & South Western Junction Line being out of action.

Traffic for the S.R. (Central Section)



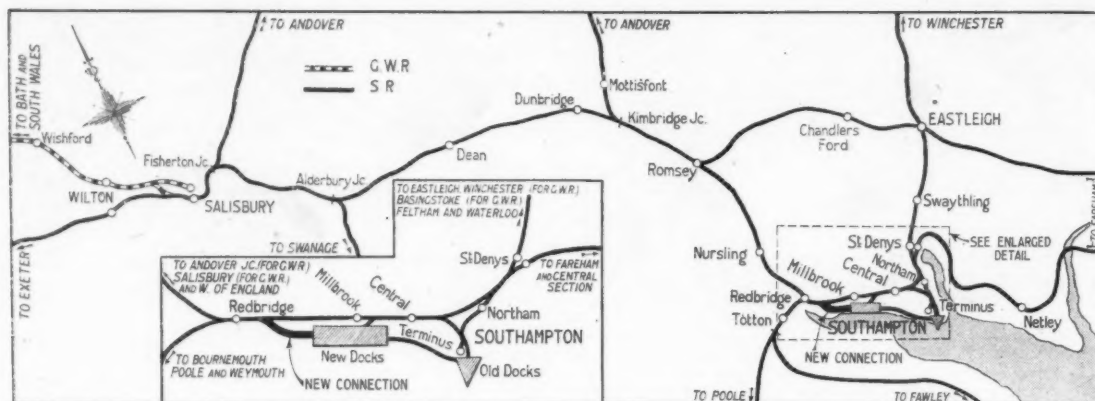
New connections between the G.W.R. and S.R. in the West of England, north of Plymouth

from the L.N.E.R. (G.C. Section) and G.W.R., normally using the West London Extension Railway, was diverted via the Banbury, Oxford, Winchester (Cheese Hill), Eastleigh, and Chichester route.

As a result of the intensive air activity in the latter part of 1940, it was necessary to divert a considerable amount of traffic for the Southern Railway over these alternative routes. Typical of a number of cases in which the connections proved of value when other routes were damaged by air raids, may be quoted the following example. By reason of the obstruction in September, 1940, of lines by which normal goods traffic is handed over from the L.N.E.R. (G.N. Section), via Snow Hill to the S.R. at Herne Hill, an alternative route was used via Staines. Trains were brought by the L.N.E.R. to Northolt on the G.W.R. & G.C. Joint Line, where they were taken over by S.R. locomotives and run via the Greenford loop to the G.W.R. main line through Hanwell to West Drayton. There they diverged to the Staines branch, where the emergency connection between the G.W.R. and the S.R. enabled them to run direct, via Virginia Water, Addlestone, Woking, Guildford, and Redhill, to a new set of marshalling sidings at Merstham (at the back of Merstham Station, between it and the Quarry Line). Here the trains were split-up, and the wagons sorted out for their various destinations. The L.N.E.R. locomotives, being more powerful than those of the S.R. which engineering restrictions permit over this route, brought longer trains than the S.R. engines could handle, and, on the average, two L.N.E.R. trains

were divided into three at Northolt for the remainder of the journey.

In the West of England, where the G.W.R. and the S.R. are in juxtaposition at many points, a series of wartime connections was established, of which that at St. Budeaux (completed on March 21, 1941) applies to the early provision of alternative routes, and the other two, namely, Launceston (opened on September 22, 1943) and Lydford (opened on November 15, 1943) were part of the preparations for D-Day. Previously, there was a less convenient connection between the G.W.R. and the S.R. at Lydford, which nevertheless proved of great service at the time of the intensive air raiding in the Plymouth area, during April and May, 1941. This naturally resulted in some interruption, which was met by the use of the S.R. line for G.W.R. trains, and of the G.W.R. lines for S.R. trains. On several occasions the two companies shared time-



The important Southern Railway connection at Redbridge, giving direct access to Southampton Docks from the G.W.R. via Nursling

tables and tracks when the normal route was impracticable, and there was a time when the Southern Railway gave hospitality to more G.W.R. trains over one particular section of line than it had normally operated on that section on its own behalf. Some such alternative routes were the diversion of G.W.R. trains from the Penzance area through Bodmin Road to the Southern Railway at Bodmin, and then *via* Wadebridge and Okehampton (the North Cornwall line) to rejoin the G.W.R. at Exeter (St. Davids); G.W.R. trains running from Exeter (St. Davids) to St. Budeaux *via* Okehampton; S.R. trains using the G.W.R. between Lydford and Plymouth; and S.R. trains running between Exeter and Plymouth *via* Newton Abbot.

Another link of the 1943 period, which provided an important new traffic route to Southampton Docks, was the double-line

connection at Redbridge shown on the above map. It was of material importance in affording a new route for the movement of traffic from the Great Western Railway, *via* Salisbury, to Southampton Docks by way of Nursling so as to avoid overburdening the lines between Eastleigh and Southampton Docks (both old and new). This connection was opened on April 19, 1943, and, of course, directly affected only the Southern Railway, but it may be regarded indirectly as a new traffic link between the G.W.R. and the S.R.

An interesting connection provided in the early days of the war, between two sections of the S.R., was that at Canterbury, laid between the Faversham-Dover line of the former L.C.D.R., and the Ashford-Margate line of the S.E.R. During the 1914 war a double-line connection was installed here for strategic reasons at the

request of the War Department. It was brought into use on May 5, 1918, and was used mainly for the conveyance of ammunition in the down direction to Richborough. The connection was taken out of use in November, 1920, when the signalling apparatus was removed from the signal boxes. The signals were removed in 1924, and the loop taken up in 1935. In 1940 the War Department asked for the reinstatement of such a connection to facilitate the movement of rail-mounted super-heavy batteries working in the East Kent area, particularly in regard to their movement to alternative firing sites. It was finally decided that this should be a single-line connection (as distinct from the double connection of the previous war) to be used solely for military purposes. The new connection was brought into use on March 2, 1941, and was laid in on the original formation.

First Aluminium Box Wagon Built in Canada

A saving in tare weight of 9 per cent. is obtained by substituting aluminium for steel on box wagons for the C.P.R.



CANADA'S first box wagon with aluminium body, recently was turned out of the Angus Shops by the Canadian Pacific Railway. It weighs 4,200 lb. less than its steel-bodied counterpart. In this experiment with aluminium the C.P.R. is continuing tests it started as far back as

1925 by equipping a passenger coach with an aluminium roof, the life of which has proved comparable to a steel roof by subsequent observation. The wagon released from the Angus shops was built to the specifications of Mr. H. B. Bowen, Chief of Motive Power & Rolling Stock, and is

the first of three aluminium-bodied wagons the C.P.R. will put in service. The other two wagons were built at the Canada Car & Foundry Company works.

The Angus Shop-built prototype has a striking appearance with its aluminium sides, doors, roof, running board, brake step and hand-brake housing all left the original colour of the metal, a sharp contrast with the steel ends which have been painted red. The wagon weighs 50 tons, and is lined with wood for the movement of high-class freight. In addition to the weight saved by using aluminium there has been a considerable lightening by the use of skeleton castings for the running gear.

The three aluminium wagons were built in addition to 747 new box wagons finished with the usual steel bodies, as part of an order for 1,150 freight wagons placed last August, and include 200 overhead-refrigerator wagons and 200 drop-end gondola wagons.

Use of aluminium for goods equipment is in line with the C.P.R. policy to improve transport by adapting to its rolling stock the advances in building technique and the new uses for materials developed during the war. On the locomotive side, for example, a substantial saving in weight is being made on 30 engines ordered for this year by substituting aluminium for steel for parts of the cab. In passenger equipment, use of aluminium and steel alloys instead of carbon steel is expected to save 5,000 lb. a coach on 50 new lightweight passenger coaches which are to be built.

New L.M.S.R. Coaches

Centre-corridor passenger stock built at Wolverton Works



painted duck-egg-shell blue and the floor is laid with terrazzo. The vehicles are heated by steam radiators fitted along the sides, with lever regulator controls for the passengers' use. The passenger compartments flooring is covered with linoleum and felt. A carpet runner along the centre aisle between the seats will be fitted when conditions permit.

Electric lighting is provided by the company's standard Wolverton system. This is a single-battery equipment, the regulator of which combines all necessary switchgear as a unit. Lighting is mainly by ceiling fittings using panels of flashed opal glass and 60-watt lamps. The cross partitions carry fittings of similar design, but with thermo-plastic in place of glass, fitted with 15-watt lamps. Sub-switches control a portion of the lighting. Standard R.C.H. through-control is arranged with interior and exterior sub-controllers. All circuits are protected by non-inter-

THE first of an order for 250 third class vestibule coaches was completed recently, at the L.M.S.R. Wolverton Works, to designs approved by the company's Chief Mechanical & Electrical Engineer, Mr. C. E. Fairburn. The above order is part of the programme for 800 new corridor vestibule coaches referred to in our June 1 issue. The carriages are 57 ft. long, 9 ft. wide and provide seating accommodation for 56 passengers on 28 double sets of seats. There are two passenger compartments divided by a partition fitted with a sliding door and two lavatory compartments at one end of the vehicle. Entrance doors are at each end, opening into a lobby fitted with a sunken mat extending the full width of the car.

The coach body is mounted on welded-steel underframes, carried on four-wheel bogies constructed of rolled-steel sections, electrically welded. The coach exterior is plated with steel sheets, welded into one complete panel extending the full length between the end doors. The exterior finish is practically flush and the steel panelling provides the base to which the glass is secured. The outside roof panels are also of steel sheet, welded to the rolled-steel roof angles. Standard L.M.S.R. drawgear and shock-absorbing buffers are fitted, with overhung collapsible gangways at each end of the coach.

The interior finishing panels are plywood with cherry-mahogany decorative veneer. The framing timber used in the compartment interior finish is sapele. Large observation windows with low sills



Interior of L.M.S.R. centre-corridor third class coach

are fitted and sliding ventilator light panels are provided at the top between each pair of seats, which are double sprung and upholstered in fawn and red uncut moquette. The lavatory walls are

changeable cartridge fuses. There is a bell communication system for use in conjunction with dining cars, with bell-pushes in moulded bakelite on each window sill.

SWISS RAILWAY RESULTS FOR 1944.—The traffic results of the Rhaetian railways for 1944 show an improvement compared with 1943. The number of passengers carried rose to 4,954,144 from 4,500,800 in 1943, an increase of 63½ per cent. on the total attained in 1938. The improvement in the economic position of the population is reflected by the fact that the number of first- and second-class passengers in 1944 exceeded the 1943 total by not less than 17·8 per cent. while the increase in the number of third-class passengers was only 9·7 per cent.

Defence traffic was responsible for a considerable part of the total increase in the number of passengers. Passenger receipts in 1944 totalled fr. 9,270,000 as against fr. 8,440,000 in 1943, and goods receipts were higher at fr. 7,620,000 (fr. 6,830,000). In 1938, goods receipts had

totalled fr. 5,560,000. Train-kilometres amounted to 2,650,000 (2,530,000) and car-kilometres aggregated 44,340,000 (38,750,000). Total expenditure (railway and ancillary services) amounted to fr. 17,700,000 compared with fr. 17,260,000 in 1943. This included fr. 5,230,000 for wages, fr. 7,290,000 for materials, and fr. 2,110,000 for depreciation. The working surplus amounted to fr. 328,000 contrasting with fr. 376,000 for 1943, and the profit and loss account closed with a favourable balance of fr. 4,699 (fr. 1,488) which was carried forward.

In the first half of 1945, traffic still showed a rising tendency and the working surplus for the first five months amounted to fr. 1,780,000 (fr. 1,620,000). In conformity with the general situation, the defence traffic declined. Personnel numbered 1,190 at the end of 1944 compared

with 1,141 a year previously. The conveyance of timber has become a prominent item of goods traffic.

During 1944 a number of electric locomotives formerly working on the Bevers-Schuls-Tarasp line were converted into shunting engines capable of operating at Coire on both the single-phase a.c. system of the Rhaetian Railways and the Swiss Federal Railways, as well as on the company's d.c. system of the Coire-Arosa line.

This conversion was completed just in time, before the prohibitive rise in the price of coal would have made the operation of steam shunting locomotives too expensive. Some of the railcars from the Coire-Arosa line (d.c. system) to the Bellinzona-Mesocco line and of a number of railcars from the Bernina line (d.c. system) to the Coire-Arosa line.

The Ruins of Potsdam Station, Berlin



Interior view, facing northward, of the famous Potsdamer Bahnhof in Berlin, which sustained four major allied air raids, two by the R.A.F. and two by the U.S. Air Force. It is a terminal station, handling principally an intensive suburban traffic

A Modernised C.P.R. Buffet-Lounge Car



The "Lake Winnipeg," a C.P.R. compartment-buffet-lounge car, has been renovated by bleaching the interior wood and the use of pastel shade paints on the ceiling. Inspecting the car are (left to right) Messrs. W. M. Neal (Vice-President), R. G. McNeillie (Passenger Traffic Manager), C. W. Rayfield (Assistant to the Manager of Sleeping & Dining Cars), and H. H. Boyd, (Assistant Chief of Motive Power & Rolling Stock)

RAILWAY NEWS SECTION

PERSONAL

At the request of the directors of Richard Thomas & Baldwins Limited, at the board meeting held on August 27, the first since the termination of control, Mr. E. H. Lever agreed to continue in office as Chairman and Mr. J. E. James as Deputy-Chairman. The board appointed Mr. E. H. Lever and Lt.-Colonel J. B. Neilson as Joint Managing Directors.

Mr. J. A. Beasley, at present Commonwealth Minister of Defence, has been appointed Australian Resident Minister in London, in succession to Mr. S. M. Bruce, whose extended term as High Commissioner expires in October. Between Mr. Bruce's relinquishment of office and Mr. Beasley's arrival in London, Dr. H. V. Evatt will be Acting High Commissioner during his stay in London as delegate to the Council of Foreign Ministers.

SOUTHERN RAILWAY APPOINTMENT

Chief Civil Engineer's Department

Mr. J. Parker, Engineering Assistant at Brighton, to be Assistant Divisional Engineer, Woking.

Mr. A. G. E. Briggs has been elected to the board of Tube Investments Limited, with the appointment of Assistant Managing Director. Mr. A. Graham Stewart has been elected a Director of the company to fill the vacancy caused by the death of Sir Allan Macdiarmid.

We regret to record the death on August 28, in his 73rd year, of Mr. Arthur Terence Stowell, C.I.E., V.D., who was for a short period Agent, and previously Chief Operating Superintendent, of the North Western Railway, India. He entered the service of the Indian State Railways in 1895, and, after holding various positions, was appointed Chief Operating Superintendent, N.W.R., in 1924. He became Agent for a short period in 1927, and afterwards until his retirement in 1932 he was Manager of the Indian Railways Bureau in London.

DIRECTORATE OF NON-FERROUS METALS

The Minister of Supply has released the Joint Controllers of Non-Ferrous Metals, Mr. W. Mure, and Mr. A. M. Baer, from their duties. The control is being replaced by a Directorate of Non-Ferrous Metals under the Raw Materials Department. The Director is Mr. R. D. Burn, previously Deputy-Controller of Non-Ferrous Metals, and the directorate is operating from the same addresses as the control. Mr. G. F. A. Burgess and Mr. R. E. Talbot relinquished their positions as Deputy-Controllers of Non-Ferrous Metals on August 31; Mr. Burgess continues to act as Mica Controller.

INDIAN RAILWAY STAFF CHANGES

Mr. D. H. Hewitt, Deputy Chief Mechanical Engineer (Carriage & Wagon), G.I.P.R., has been granted one year's leave, preparatory to retirement, as from January 15.

Mr. W. Jolly has been confirmed as Financial Adviser & Chief Accounts Officer, M.S.M.R.

Mr. P. E. Culverhouse, who, as recorded in our August 3 issue, is retiring on September 30 next from the position of Architect to the Great Western Railway Company, was educated at Wellington School, Somerset, and was articled to Windsor architects, during which time he had practical experience in planning and constructional details of high-class residences. He joined the G.W.R. in 1892, on the personal staff of Sir James Inglis, then Chief Engineer, and

hand when labour difficulties are overcome and materials are available. (See also editorial note).

The Minister of War Transport has appointed Mr. G. R. Strauss, M.P., Parliamentary Secretary to the Ministry, to be Chairman of the Committee on Road Safety, in succession to Mr. Philip Noel-Baker, M.P.

Mr. John Eaton has been seconded from his position as Assistant General Purchasing Agent, Canadian Pacific Railway, to become temporary Chairman of the Canadian Export Board.

NORTHERN IRELAND ROAD TRANSPORT BOARD

The Northern Ireland Ministry of Commerce has re-appointed the following to be members of the Northern Ireland Road Transport Board for a period of two years: The Earl of Enniskillen, Messrs. S. Wallace Kennedy, J. S. Rogers, D. Wilson Smyth, and James E. Wilson. The Earl of Enniskillen has been designated Chairman.

Mr. Thomas H. Gibson, Financial Director of the British Iron & Steel Corporation and its subsidiary companies, and Secretary of the British Iron & Steel Federation and of the British Steel Export Association, by mutual arrangement has relinquished these appointments, and joined the board of W. H. Arnott, Young & Co. Ltd. During the war Mr. Gibson was loaned to the Iron & Steel Control, Ministry of Supply, and acted as Deputy-Controller & Secretary.

Among recent awards in recognition of gallant and distinguished services in North-West Europe are those of the O.B.E. to Lt.-Colonel I. L. Roney-Dougal, Royal Engineers, and to Colonel S. A. Fitch, M.B.E., D.C.M., M.M., Royal Engineers. Colonel Fitch recently was appointed Assistant Superintendent of Operation, Southern Railway.

We regret to record the death of

Dr. John McCombe, who was Chief Medical Officer, Canadian National Railways, from 1928 until his retirement in 1943.

Mr. D. F. Sharman, President of the Associated Society of Locomotive Engineers & Firemen, has left the Labour Party and joined the Communist Party.

Mr. T. E. Nixon, Director of the Light Metals Control (Sheet Strip), Ministry of Aircraft Production, since 1941, has returned to the Northern Aluminium Co. Ltd., and has taken up the position of Assistant Manager of the London Area Sales Office.

We regret to record the death at the age of 68, of Mr. John Eades, A.M.I.Mech.E., who had been connected with the Monarch Controller Co. Ltd. and its associate companies for over 35 years. During the war he acted as Manager of the company in Westminster.



Mr. P. E. Culverhouse

Architect, Great Western Railway Company, 1929-45

was engaged on various station alterations on account of the conversion of the gauge. He became Architectural Assistant to Chief Engineer (Mr. W. W. Grierson) in 1917, and was appointed Architect to the company in 1929. Mr. Culverhouse was responsible for the design and erection of the following stations, among others: Exeter, Cardiff, Bristol, Plymouth, Aberystwyth, Taunton, Newport, and Leamington; and for the design and erection of many large buildings, such as blocks of offices at Paddington, and accommodation for the Chief Goods Manager (chiefly goods depots) at South Lambeth, Park Royal, and Newtown Yard, Cardiff. Since the company took over the hotels on its system, Mr. Culverhouse has been responsible for their improvement and modernisation, including Paddington Royal Hotel; Tregenna Castle, St. Ives; and Manor House Hotel, Moretonhampstead. Designs have been completed for many large hotels throughout the system, which await the opportunity of being put in



Elliott **Mr. B. B. Lewis** *[Fry]*
Appointed Architect to the Great Western Railway Company

Mr. B. B. Lewis, M.A. (Architecture), F.R.I.B.A., Chief Assistant Architect, Paddington, Great Western Railway, who, as recorded in our August 3 issue, has been appointed Architect to the company, Paddington, as from September 30 next, was born in Tasmania in 1906. He was educated at Wesley College, Melbourne, and Melbourne University, and obtained the degree of Bachelor of Architecture and the War Memorial Scholarship and Lloyd Exhibition. Later he spent two years at Liverpool University, studying town planning and architecture, and obtained the degree of M.A. (Architecture), and the Honan Scholarship of the Liverpool Architectural Society, enabling study in Scandinavia. In 1931 he was awarded the "Victory" Medal and Scholarship of the Royal Institute of British Architects, and spent some months studying in Spain. After office experience in Melbourne, Singapore and London, he



Mr. W. H. E. Humphrey
Cartage Controller, Chief Goods Manager's Office, Paddington, G.W.R., 1942-45

joined the Great Western Railway in 1930; he was appointed Junior Assistant in 1934, and Assistant in 1938. In 1940 Mr. Lewis joined the Australian Imperial Forces, and served with engineering field companies in the ranks until commissioned. He saw active service in North Africa, Syria and the Pacific before being released to rejoin the G.W.R. in 1943 as Chief Assistant Architect.

Mr. W. H. E. Humphrey, Cartage Controller, Chief Goods Manager's Office, Paddington, Great Western Railway, who retired on July 31, began his railway career in the General Manager's Office, G.W.R., in 1900. In 1904 he was transferred to the Goods Department, and after seven years' service on general goods and cartage work was moved to the Chief Goods Manager's Office, where he remained until the outbreak of war in 1914; he then joined the Railway Transport Establishment, and



Mr. H. H. Starr
Appointed Road Transport Controller, Chief Goods Manager's Office, Paddington, G.W.R.

went to France in March, 1915. Before being demobilised in November, 1919, he attained the rank of Major. From 1919 to 1927, Mr. Humphrey was Chief Clerk to the District Goods Managers in London, and Worcester, and was also Assistant Goods Superintendent at Bristol. He was appointed Assistant Horse Superintendent at Birmingham in 1927, and became Horse Superintendent at Paddington, in 1932. In 1938 Mr. Humphrey was appointed Assistant Superintendent of Road Transport, Paddington; and in November, 1942, he took up the position from which he recently has retired.

Mr. H. H. Starr, Goods Agent, Cardiff, Great Western Railway, as recorded in our July 6 issue, has been appointed Road Transport Controller, Chief Goods Manager's Office, Paddington, in succession to Mr. W. H. E. Humphrey, retired. Mr. Starr entered the G.W.R. service at Gloucester,



The late Mr. T. H. Bygate
District Engineer, Darlington, L.N.E.R., 1927-35



Dr. F. Wanner
Appointed General Secretary, Swiss Federal Railways



The late Mr. F. G. Wainwright
Divisional Superintendent, Cardiff, G.W.R., 1921-38

in 1908, and soon removed to Cheltenham, where he became Chief Clerk in 1920. He returned to Gloucester in 1927, and became Chief Clerk at Oxford in 1930, and Shed Superintendent at Hockley, Birmingham, in 1933, and was appointed Chief Clerk at the latter station in 1937. Mr. Starr was appointed Chief Clerk to the District Goods Manager at Birmingham in 1938, and in March, 1940, he became Assistant Goods Superintendent, Paddington; in July, 1941, Assistant District Goods Manager, Birmingham; and in July, 1944, Goods Agent at Cardiff.

Mr. T. H. Bygate, whose death was recorded in our August 31 issue, retired from the position of District Engineer, Darlington, L.N.E.R., in 1935. He joined the North Eastern Railway and was posted to the drawing office at York in 1889. In 1896 he was transferred to the drawing office of the Docks Engineer at Hull, but some two years later returned to York. In 1899 he was appointed Chief Assistant to the District Engineer at Hull, the position he continued to hold after the amalgamation. In November, 1927, Mr. Bygate was promoted to be District Engineer, Darlington.

Dr. F. Wanner, who recently was appointed General Secretary, Swiss Federal Railways, was born in Zürich in 1906. After passing through the cantonal school there, he studied law at the Universities of Zürich, Berne, and Berlin, where he obtained his degree of Doctor at Law. During the earlier part of his career he practised journalism, especially in the fields of transport and military matters. In 1929 he entered the service of the Swiss Federal Railways, and gained valuable practical experience during his work at various Swiss stations and at the Paris and London agencies of the Federal Railways. During his stay in London he had the opportunity to make useful contacts with the Railway Research Service. In 1931 he went to the General Secretary's Office as Legal Assistant and in 1939 was promoted Chef de Section and entrusted with the press service, which he organised and developed. Towards the end of 1940 he was made Assistant General Secretary, and in that capacity did much towards keeping the public informed on railway questions and transport problems in general. Dr. Wanner has published a number of articles, both in the daily press and in professional journals.

We regret to record the death on August 21, at the age of 73, of Mr. F. G. Wainwright, who retired from the position of Divisional Superintendent, Cardiff, Great Western Railway, at the end of 1938. Mr. Wainwright entered the company's service at Ross in 1888, and occupied various positions in that district until 1899, when he was appointed relief clerk at Cardiff. In 1906 he was transferred to the Office of the Superintendent of the Line and was engaged chiefly on outdoor duties in connection with the working of freight trains. He was promoted in 1909 to the position of Chief Clerk to the Divisional Superintendent, Gloucester, and in the next year was transferred to Cardiff in a similar capacity. In 1914 he was made Assistant to the Divisional Superintendent, Cardiff. Mr. Wainwright was appointed Divisional Superintendent, Cardiff, in 1921. In 1924 the G.W.R., with the purpose of giving effect to the grouping of the lines in South Wales, reconstructed the Cardiff Division. It lost to the newly-formed Newport Division the Monmouthshire Valleys, but took over the old Barry, Rhymney, and

Taff Vale Railways. These railways carried over their network of lines a considerable mineral traffic, consisting of the coal exported from Cardiff and Barry Docks (the ports served by the Cardiff Division), a traffic which in 1924 amounted to 19½ million tons. The bringing under one control of three formerly-competitive railways, and of the docks, involved much reorganisation work in the division, for which Mr. Wainwright was responsible.

At the funeral on August 25, the Great Western Railway was represented by Messrs. H. J. Peacock (Assistant Superintendent of the Line, also representing Mr. K. W. C. Grand, Assistant General Manager, and Mr. Gilbert Matthews, Superintendent of the Line), H. H. Phillips (Divisional Superintendent, Cardiff), W. S. H. Williams (Divisional Superintendent, Swansea), L. E. Ford (Chief Docks Manager), A. W. Hollingdale (Divisional Engineer), S. E. Tyrwhitt (Divisional Locomotive Superintendent), H. F. J. Page (representing Mr. F. H. D. Page, Signal Engineer, Reading), E. L. Reese (representing the District Goods Manager), J. E. Griffith (late Divisional Engineer, Neath), Dr. E. W. Jocelyn, Capt. J. L. Peterson (representing Mr. E. V. Swallow, Barry Dock), J. A. Shaylor, B. M. Gordon, F. W. Wheatley, E. A. Abel, T. Phillips, J. W. Thomas, J. Takel, W. J. Mumford, T. W. Phelps, Chief Inspector J. Harris, Inspector J. Prosser, W. J. Pellow, ex-Inspector J. Neale.

Lady (Marie Louise) Forbes, of Regent's Park, N.W., widow of Sir William Forbes, General Manager of the former London, Brighton & South Coast Railway, left £81,493. She left £1,000 to the Railway Convalescent Homes.

SOUTH AFRICAN RAILWAYS & HARBOURS

Mr. N. Moore, District Engineer, Lady-smith, has been appointed System Engineer, Port Elizabeth.

Mr. C. C. Wedderburn, Assistant Superintendent (Operating), Johannesburg, has been appointed Superintendent (Operating), Bloemfontein, in succession to Mr. W. Heermans, who has retired.

Lt.-Colonel J. A. Lea, M.C., Mechanical Engineer, Salt River, has retired.

Mr. J. D. de V. Rademan, Captain-in-Command, Airways Department, Germiston, has been appointed Liaison Officer (Airways), High Commissioner's Office, London.

Recent Locomotive Designs

(Concluded from page 241)

shown, and if it may be accepted that the "ton-miles per hour" produced by a locomotive is the direct measure of the revenue earning capacity, American standards of fundamental factors, indicate the benefits which can be attained by a high ratio of boiler capacity.

FUNDAMENTAL FACTORS OF DESIGN

Type	Central Uruguay Railway proposed	British-built austerity	American-built austerity
Rated tractive force at rim of drivers	2-10-0	2-10-0	2-8-0
Cylinder dimensions	36,720 lb.	34,215 lb.	31,490 lb.
Diameter of driving wheels	(3) 18 in. x 24 in.	(2) 19 in. x 28 in.	(2) 19 in. x 26 in.
Boiler	54 in.	56½ in.	57 in.
Pressure, lb. per sq. in.	200	225	225
Firebox heating surface including syphon	189 sq. ft.	192 sq. ft.	155 sq. ft.
Tube and flue heating surfaces—			
140—2 in. dia. and 32—5 in. dia.	1,642 sq. ft.	—	—
152—1½ in. dia. and 28—5½ in. dia.	—	1,759 sq. ft.	—
150—2 in. dia. and 30—5½ in. dia.	—	—	1,618 sq. ft.
Total evaporative heating surface	1,831 sq. ft.	1,951 sq. ft.	1,773 sq. ft.
Grate area	30 sq. ft.	40 sq. ft.	41 sq. ft.
Length between tube plates	14 ft. 3 in.	15 ft. 8 in.	13 ft. 5 in.
Factor of evaporation for firebox, including syphon	55	55	55
" " tubes and flues	11-15	10-6	11-5
Rated evaporation per hour	28,703 lb.	29,205 lb.	27,132 lb.
Average evaporation of water per hour per sq. ft. of heating surface	15-6 lb.	14-9 lb.	15-3
Steam per I.H.P. hour for pressure and degree of superheat	19-7 lb.	19-25 lb.	19-25 lb.
Boiler or potential horse-power	1,457 hr.	1,409	1,409
Equated heating surface	2,540 sq. ft.	2,643 sq. ft.	2,466 sq. ft.
Rated tractive force ÷ equated heating surface	14-5	13-0	12-75

New Cargo Liner for the C.P.R.

The *Beaverdell*, the first of four fast cargo liners which are being built for the Canadian Pacific Railway in Clyde shipyards, was launched on August 27 at the Kingston Yard of Lithgows Limited, Port Glasgow, in the presence of Mr. D. C. Coleman, Chairman & President of the Canadian Pacific Railway Company, who was accompanied by Mrs. Coleman, and their son, Lt.-Colonel Rowan Coleman, D.S.O., M.C.

The gross tonnage of the *Beaverdell* is about 10,000 tons. The original fleet of "Beaver" class ships has been lost during the war.

At a reception after the launching, Sir James Lithgow, Managing Director of Lithgows Limited, proposed the toast of the ship, to which response was made by Mr. D. C. Coleman. In the course of his speech Mr. Coleman referred to the severe losses suffered by the Canadian Pacific fleet, and named eleven of its liners which had been sunk. The four ships in building represented the beginning of the company's fleet replacement, and would renew the freight service over the North Atlantic of the C.P.R. "Beaver" ships.

Referring to the war record of the Canadian Pacific Railway, Mr. Coleman said that, in addition to the considerable amount of munitions produced, it had handled 128,000,000,000 freight ton-miles, and 11,000,000,000 passenger-miles.

Others who were present at the launching ceremony included:—

Mr. John Johnson, Consultant, C.P.R., and the following officers of the C.P.R.: Messrs. William Baird, Special Representative of the Chairman & President; J. C. Patterson, European Manager; F. W. Mottley, European Freight Manager; A. L. Rawlinson, European Passenger Manager; M. L. Duffy, General Agent, Liverpool; A. J. Fyfe, General Agent for Scotland; F. G. Fawke, Purchasing Agent, London; R. Tait Melville, Manager, Canadian Pacific Steamships Limited; and N. R. Nickalls, Superintendent Engineer, Steamships Reconstruction; also Mr. E. W. Arkle, Goods Manager, Scottish Area, London & North Eastern Railway.

Perhaps the inferior grades of coal available in the United States of America is a factor which has influenced the adoption of higher boiler capacities; however, the design of the Central Uruguay Railway proposed engine is illustrated as an oil burner whereas both the British-built and the American-built austerity engines are provided with means of conversion to oil burners if and when necessary.

The International Railway Traffic Bureau

(From a correspondent)

The main task of the International Railway Traffic Bureau at Berne is to supervise the procedure recommended by two international conventions relative to the carriage of passengers and luggage by rail (Convention internationale concernant le transport des voyageurs—abbreviated CIV) and the railway transport of goods (Convention internationale concernant le transport des marchandises—abbreviated CIM). The bureau is also entrusted with the co-ordination of all the problems, legal and technical, in connection with any revisions of the conventions.

The mileage affected by the two conventions at October 31, 1944, is as follows:—

	Goods Traffic Convention miles	Passenger & Luggage Traffic Convention miles
Railway lines ...	158,377	124,267
Road motor routes ...	94	1,496
Shipping lines ...	347	3,994
	158,818	129,757

Compared with the position at the end of November, 1943, there was an increase relative to goods traffic of 1,681½ miles, and relative to passenger traffic of 1,367½ miles. From the last information released, on November 30, 1943, it appeared that twenty-two countries had adhered to the two conventions, namely, Belgium, Bulgaria, Denmark, Finland, France, Germany, Greece, Holland, Hungary, Italy, Liechtenstein, Luxemburg, Norway, Poland, Portugal, Roumania, Slovakia, Spain, Sweden, Switzerland, Turkey, and Yugoslavia.

Although Luxemburg was (and still is) a member country, no mileages in respect of either conventions were shown because the Luxemburg railways had been absorbed, during the war, by the German Reichsbahn. Because of the dismemberment of Poland (in that period) no mileages were shown for that country either. Contrasting with this, the mileages for Yugoslavia were shown as 5,910 miles in the case of the goods convention and as 5,870 miles in the case of the passenger and luggage convention.

The following list contains comparative figures as to the development of the total mileages (railway, road motor routes and shipping lines) concerning both conventions.

	Goods traffic (CIM)	Passenger traffic (CIV)
1893 (1) ...	94,448	—
1913 (1) ...	162,116	—
1923 (1) ...	134,216	—
1928 (2) ...	152,932	148,919
1937 (2) ...	159,596	143,370
1938 (2) ...	158,438	137,222
1939 (3) ...	156,012	133,444
1940 (3) ...	153,011	127,381
1942 (3) ...	156,775	128,436
1943 (3) ...	157,135	128,393
1944 (3) ...	158,817	129,759

(1) International Convention (CI) referring to goods traffic only, concluded October 14, 1890, and effective as from January 1, 1893.

(2) International Conventions (CIM and CIV), signed November 23, 1924, and effective as from January 1, 1928.

(3) International Conventions (CIM and CIV), signed at Rome, November 23, 1933, and effective as from October 1, 1938 (still in force).

The long delay between the conclusion of the conventions and the dates on which they became effective was due to the provision that they must be ratified by at least fifteen member countries before becoming binding. Spain was the last country to ratify the conventions concluded in 1933. She did so in 1943, but not until 1944 did she notify the railway lines (only) which were to be affected by the conventions.

As will have been noticed from the foregoing, countries may adhere to both or to the one or the other convention only and are at liberty to do so in respect of the whole or part of their railway, motor road and shipping lines. Shipping lines are only included when forming an integral part of a railway or motor route, comprising lake shipping, maritime or lake ferries. Member countries are also at liberty to cancel their adherence in respect of any of their lines covered by the convention or conventions, or to add new lines to be covered, on giving notice to the Bureau. The number of member countries remained unchanged in 1944, compared with 1943. Nominally Czechoslovakia remained a member country during the war period, although in effect her place was taken by Slovakia while her Bohemian and Moravian lines covered by the convention had been added to the German systems of communications. Nominally, Estonia, Latvia, and Lithuania have remained members, although their systems of communications have been absorbed by the Soviet Union. The Free State of Danzig was a member between 1928 and 1939.

The expenditure of the bureau in 1944 amounted to fr. 383,653, compared with fr. 333,972 in the preceding year. This covered also the salaries for the staff. Dr. h.c.ing. Anton Schraff, Manager, and Herr E. Schmid, Deputy-Manager, resigned on June 30, 1943, and June 15, 1943, respectively, on reaching their age limits. Dr. h.c. Hans Hunziker, former General Manager of the Swiss Posts & Telegraphs, was appointed Manager of the bureau, and later Dr. K. Friebe, Ministerial Councillor at the German Reich Traffic Ministry, was appointed Deputy-Manager. Although, by the regulations of the bureau, the Manager must be Swiss, it is an established practice that three of the other leading officials shall be French, German, and Italian, as the representatives of the most important member countries. This had been the position up to the end of the 1939-45 war.

The expenditure of the bureau is covered by the contributions made by the member countries *pro rata* with their respective mileages affected by the convention. The Swiss Federal Council establishes the contribution to be paid. As from October 31, 1943, it has been one Swiss franc in respect of the railway and road motor lines affected by the goods convention, and 40 Swiss centimes in respect of the railway and road motor lines affected by the passenger and luggage convention. The contribution in respect of the shipping lines for both conventions is half the above fees.

* The contributions per kilometre were increased as from October 31, 1944, to fr. 1.10 in respect of the goods convention and to centimes 50 in respect of the passenger and luggage convention (for the railway and road motor lines), and to half those amounts in respect of the shipping lines.

The Conventions and British Railways

In the past there have been efforts to bring British railways into the orbit of the two conventions, but without success. On the occasion of the Rome conference in 1933, for the revision of the two Conventions of 1924 (effective as from 1928), Mr. H. Hanscombe attended by invitation the sittings of the conference as an observer representing the British railway companies.

Before then, a conference was held on

February 17 and 18, 1925, between Mr. F. A. Brant, then Continental Assistant of the Southern Railway, Mr. Farror, of the Southern Railway, and Mr. A. Gaunt, as delegates of the British railway companies, on the one hand, and delegates of the bureau, as well of the Swiss Federal Railways, on the other. Nothing came of these efforts. It is, however, believed that at the present juncture, when the United Kingdom has a paramount interest in fostering her export trade, and, by implication, in taking a hand in the transport problems relating to exports intended for continental Europe, it would seem the appropriate moment to arrange for the preliminary steps to British adherence to the conventions.

It is considered likely that the bureau will take steps, now that the war is over, to arrange the much delayed international conference for the revision of the 1933 conventions, and this conference should be attended by official delegates of the British railways, acting not merely as observers. It is suggested that as British-controlled railway systems in the Near and Middle East (and in the not too distant future those in India) are linked now by rail with the European railway systems and, through the Channel ferries, with the railways in the United Kingdom, the latter should take steps to bring cross-Channel traffic under unified control.

The facilities which the two international conventions offer in respect of the carriage of passengers over international routes should also act as incentives to the establishment of such control.

The Swiss Federal Railways in 1944

Traffic results of the Swiss Federal Railways in 1944 show that single journeys constituted 36 per cent. of all passenger movements during the year. Single fares, in addition to the amounts paid for holiday season tickets, aggregated 57 per cent. of the 1944 passenger receipts. The season ticket traffic constituted more than half of the entire passenger traffic, but yielded only 18½ per cent. of total passenger receipts.

Average fares paid per kilometre for various categories of passengers are as follows:—

Individual passengers ...	6-87 centimes
Group passengers ...	3-27 ..
Season ticket holders ...	2-02 ..
Workmen season ticket holders ...	2-00 ..
Students, apprentices (return fare) ...	0-89 ..

The average number of passengers carried daily on the Swiss Federal Railway system increased from 300,000 before the war to 518,000 in 1944, and reached a maximum of 600,000 in October, 1944. Available seating accommodation averaged 217,000 seats daily. Holiday season tickets sold numbered 360,000 in 1943, and this figure rose to more than 370,000 in 1944.

Although a great number of special military trains were run, members of the Forces constituted nearly a quarter of the public travelling by scheduled trains. Of the balance, a quarter consisted of passengers with ordinary tickets, passengers with suburban season tickets comprised another quarter, a sixth of the passengers held general season tickets (covering the whole system), and one twelfth were excursionists. In other words some three quarters of the travelling public were passengers making business journeys.

The average distance travelled by individual passengers was 16½ miles, and

group passengers covered double that distance. Holders of season tickets, for certain sections of line, made journeys averaging about 8½ miles.

Average receipts per passenger-kilometre were as follow:—

1913 ...	3.68 centimes	1943 ...	4.11 centime
1921 ...	6.77 ..	1944 ...	4.39 ..
1938 ...	4.6 ..		

The increase in receipts for 1944 amounted to 6.8 per cent. compared with the preceding year, but were still 4.6 per cent. lower than in 1938, and 19.3 per cent. below the 1913 figure.

Questions in Parliament

Railway Sleeping-Car Accommodation

Lord Balfour of Inchrye in the House of Lords on August 23 asked His Majesty's Government if it would now abolish the wartime system of all railway sleeping-car accommodation being held up by the Ministry of War Transport for Government priority passengers of Service and Civil Departments, and agree to revert to the peacetime system of booking by the railway companies so that non-official travellers in future could enjoy this amenity of travel on the same basis as officials.

Lord Ammon (Captain of the Honourable Corps of Gentlemen-at-Arms) in reply said: Lord Balfour is under a misapprehension if he thinks that all railway sleeping-car accommodation is held by the Ministry of War Transport and that officials alone are entitled to priority of accommodation. In December, 1941, the Ministry of Transport assumed control over the allocation of a large proportion of sleeping berths. This was necessary because of the heavy demands for persons travelling for essential war purposes on the reduced number of berths available. The controlled berths have been allocated to Members of Parliament travelling between London and their constituencies or between other places on business of the House, and to officers of the Services, Government officials, and business men whose applications in every case have been sponsored by the authorised officer of the appropriate Government Department on the ground that the particular journey is on urgent business of national importance and must necessarily be made at night. The lowest ranks eligible for first class travel under these arrangements are Captain (R.N.), Colonel, Group Captain, Assistant Secretary in the Civil Service and business men regarded by the Government Department concerned as being of at least equivalent status. In spite of the relatively high level of eligibility for first class sleeper travel the demand frequently exceeds the number of priority berths available.

Immediately the war with Germany ended the position was brought under review and additional berths from time to time have been released from reservation. Any surplus berths after meeting priority requirements are released to the railway company concerned on the day previous to the day of departure for assignment to the public. Now that the war with Japan has ended the Minister of War Transport is actively reviewing the possibility of reducing still further the number of reservations and hopes in the near future to release considerably more berths for engagement by the public in the ordinary way. In addition the Minister of War Transport hopes it may be possible to arrange for some additional sleeping accommodation to be provided from the beginning of October when the winter timetables come into operation.

London District Railway Services

Mr. A. M. F. Palmer (Wimbledon—Lab.) in the House of Commons on August 22 asked the Minister of War Transport if he would state the number of through trains between Earls Court and Wimbledon Stations, and between Earls Court and Ealing Broadway Stations, respectively, on the District section of the London Passenger Transport Board, and *vice versa*, between 6 a.m. and 11 p.m. on each weekday from Monday to Friday; the number on Saturday and the number on Sunday in each week; the longest and shortest interval between each train on both sections on those days; and the ordinary fares, both single and return, from Earls Court to Wimbledon and Earls Court to Ealing Broadway.

Mr. Alfred Barnes, in reply, circulated the following statistical tables:—

TOTAL NUMBER OF TRAINS BETWEEN 6 P.M. AND 11 P.M.

	Monday—Friday		Saturday		Sunday	
	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound
Earls Court—Wimbledon ...	95	97	109	109	61	58
Earls Court—Ealing Broadway ...	131	130	124	122	64	66

WIDEST INTERVAL

	Monday—Friday		Saturday		Sunday	
	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound
Earls Court—Wimbledon ...	min. 20	min. 20	min. 20	min. 20	min. 20	min. 24
Earls Court—Ealing Broadway ...	12	10	10	10	15	15

SHORTEST INTERVAL

	Monday—Friday		Saturday		Sunday	
	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound
Earls Court—Wimbledon ...	min. 4	min. 4	min. 4	min. 4	min. 10	min. 15
Earls Court—Ealing Broadway ...	3	4	4	4	10	10

The ordinary single and return fares from Earls Court to Wimbledon and from Earls Court to Ealing Broadway are as follows:—

	Single	Return
Earls Court to Wimbledon ...	9d.	1s. 6d.
Earls Court to Ealing Broadway ...	6d.	1s. 0d.

Steamer Embarkation Arrangements

Dr. James Little (Down—C.) on August 24 asked the Secretary of State for the Home Department whether, now peace had come, he would make arrangements whereby the position for travellers between Great Britain and Northern Ireland would again become normal by granting free facilities for embarkation and disembarkation and thus end the queuing system.

Mr. Chuter Ede (Secretary of State for the Home Department) stated in a written answer: Passengers normally resident in the United Kingdom are allowed to travel freely between Great Britain and Northern Ireland on production of the travel permit cards identifying them. I regret that the need for controlling the entry of aliens and workers from Eire still makes it necessary for all passengers to pass the control point, but every endeavour is made by the immigration staff to minimise delay and inconvenience to travellers, and I am glad to say that it has become possible recently considerably to accelerate the movement of

passengers. Queuing, however, is rendered inevitable by the very large numbers of persons travelling and the restricted accommodation both on ship and on shore; and the remedy lies in the restoration of less congested conditions of travel.

Air Transport from Northern Ireland

Lt.-Colonel Sir Walter Smiles (Down—C.) on August 24 asked the Parliamentary Secretary to the Ministry of Civil Aviation if he was aware that there were thousands of people who wished to travel from Northern Ireland to Great Britain; and if he would make use of the hundreds of aeroplanes and seaplanes, which were now idle, and could be converted easily to carry passengers on this short journey.

Mr. Ivor Thomas (Parliamentary Secretary to the Ministry of Civil Aviation) wrote in reply: The answer to the first

part of the question is "Yes, sir." As to the second part of the question, I am fully alive to the position, and special steps have recently been taken to improve the service. The possibility of using a converted type of Service aircraft to supplement the air services operating on this route is under active consideration.

Bank Holidays

Lieutenant T. C. Skeffington-Lodge (Bedford—Lab.) on August 23 asked the Chancellor of the Exchequer whether, in the interests of general efficiency and the health of the people, he would arrange for an additional annual bank holiday between August and Christmas.

Mr. Dalton (Chancellor of the Exchequer): My honourable and gallant friend's proposal will be borne in mind, but I am not prepared to adopt it at present.

Parliamentary Notes

Manchester Ship Canal Bill

The Manchester Ship Canal Bill was read the third time, and passed, in the House of Commons on August 24.

The Bill was read the first time in the House of Lords on August 24, and referred to the Examiners.

Southern Railway London-Dover Boat Trains

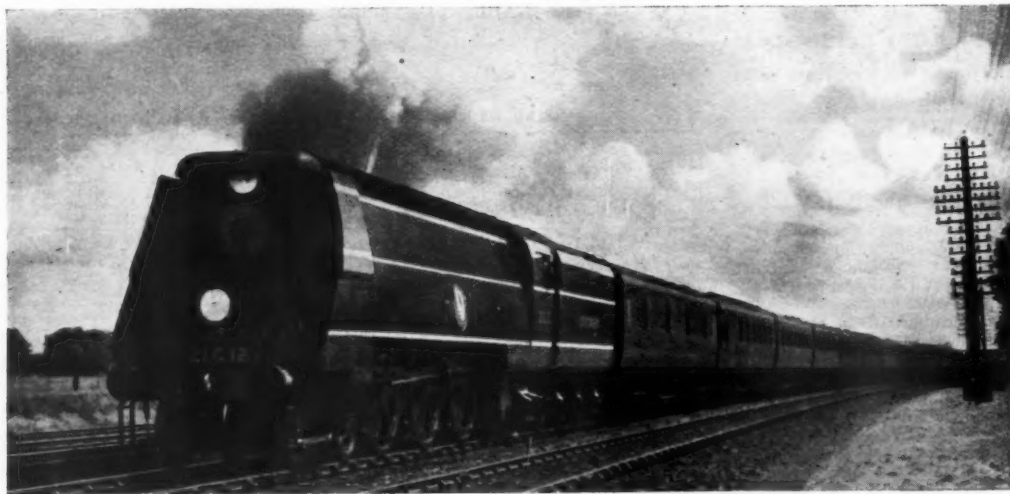
WITH the prospect of the re-opening of continental traffic the Southern Company recently has been investigating the possibility of shortening the pre-war schedule of the boat trains between London and Dover. Several trial runs have been made with the "Merchant Navy" class locomotives hauling trains weighing 450 tons (an increase of 50 tons on the pre-war weight) behind the tender over the principal boat train route, namely, from Victoria to Dover Marine via Bickley, Orpington, and Tonbridge. The route is tortuous and heavily

graded, and the pre-war schedule for the 78 miles was 90 min. These powerful locomotives, in which Mr. O. V. Bulleid, the Chief Mechanical Engineer, has embodied many new features made possible by the advance in locomotive science in recent years, have justified fully the hopes of their designer, who has found the engines respond readily to all the demands made on them.

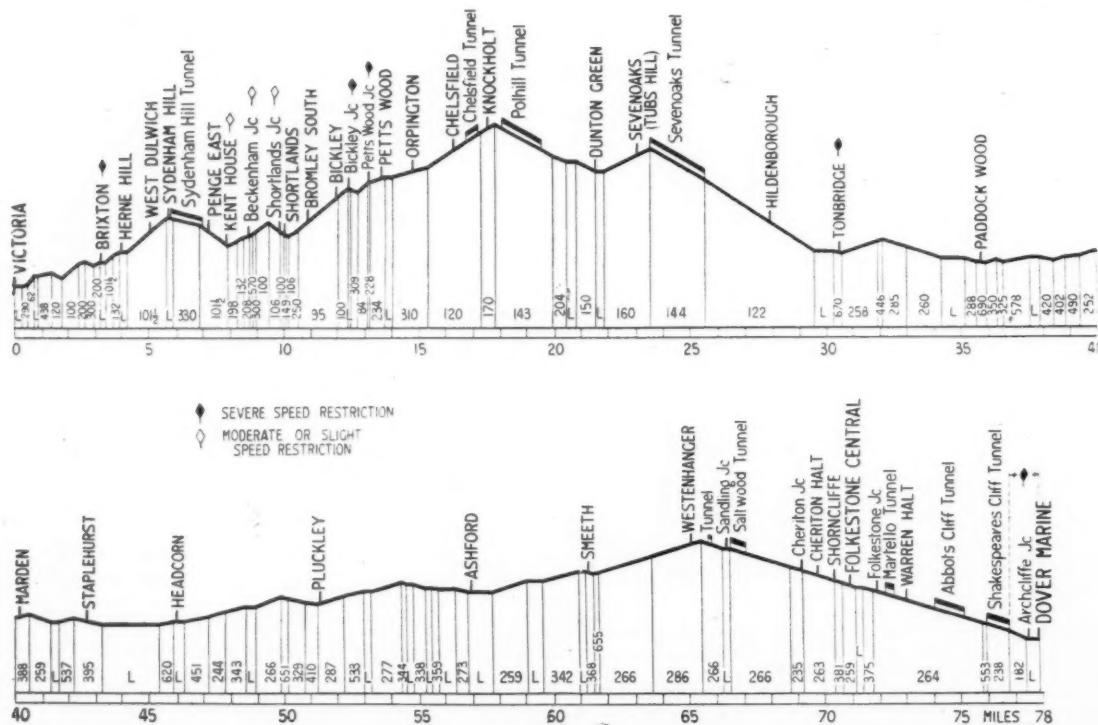
The trial runs mentioned have demonstrated the increased power and the smart manner in which this type of locomotive

regains speed after deceleration for permanent and service slacks and shown that it will be practicable to reduce the 90-min. schedule by at least 10 min. and bring the running to an average speed of a mile a minute; this is a remarkable achievement over such a difficult route as that shown on the accompanying gradient profile between Victoria and Dover, for in the Bickley area there are lengths of track rising at 1 in 84 and 1 in 95 with sharp curves and turn-outs.

An illustrated article describing the Merchant Navy class of locomotive was published in our issue of March 14, 1941.



"United States Lines" No. 21 C 12 "Merchant Navy" class hauling a heavy passenger train



Gradient profile of principal London-Dover boat-train route

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Staff and Labour Matters

Railway Shopmen

After discussions extending over several days on the claims for improvements in rates of pay and conditions of service of railway workshop staff, the parties reached agreement on August 24, which the trade unions promised to recommend for acceptance to their respective executive committees.

For skilled workers under Schedule B the new composite rates of pay for time-workers are as follow:—

Occupation	Total composite rates		
	London	Class "A" towns	Class "B" towns
	s. d.	s. d.	s. d.
Bodymakers (Coach) and Finishers (Coach):—			
Grade I	101 6	98 6	96 0
" II	97 6	94 6	92 6
Fitters and Boilersmiths, Running Sheds (Shed differential included) ...	107 6	104 6	102 0
Bricklayers, Carpenters, Joiners, Masons, Plasterers, Plumbers, and Slaters:—			
Grade I	101 6	98 6	96 0
" II	97 6	94 6	92 6
" III	93 0	90 0	88 0
Cabinet Makers, Die Sinkers, Engravers, Erectors (locomotive), Instrument Makers and Repairers, Millwrights, Platers (Constructional work), Turners ...	101 6	98 6	96 0
Coppersmiths—Running Shed (Shed differential included) ...	103 6	100 6	98 0
Fitters, Brass Finishers, Electricians, Smiths, and Tinsmiths:—			
Grade I	101 6	98 6	96 0
" II	97 6	94 6	92 6
" III	94 0	91 0	89 0
Fitters—Brake, C. & W., Pointe & Crossing, Tender, Key, and Water:—			
Grade I	98 0	95 0	93 0
" II	94 6	91 6	89 6
Machinist, Metal:—			
Grade I	98 0	95 0	93 0
" II	96 0	93 0	91 0
" III	93 0	90 0	88 6
" IV	90 6	87 6	87 0
Painters:—			
Grade I	100 6	97 6	95 6
" II	97 0	94 0	92 0
" III	93 0	90 0	88 6
" IV	90 6	87 6	86 0
Patternmakers ...	106 6	103 6	101 0
Riveters—Constructional work (bridges or the like), Wagon and wagon frame ...	98 6	95 6	94 0
Smiths—Double-handed fires	103 6	100 6	98 0
Smiths, Tinsmiths and Turners—Running Sheds (Shed differential included) ...	103 6	100 6	98 0
Trimmers, Coach:—			
Grade I	99 0	96 0	95 0
" II	96 0	93 0	91 0
Turners, Axle (C. & W.), and Turners, Wheel (Loco)	97 0	94 0	92 0
Turners—Wheel (C. & W.)	93 0	90 0	87 6
Wheelwrights	100 6	97 6	95 6

The wages and conditions of service of railway workshop staff were laid down on a national basis by Industrial Court award No. 728 in 1922, and the new agreement provides for a completely new wages structure in addition to improvements in holidays and a guaranteed day and guaranteed week.

Under Industrial Court award No. 728, there were five different classes of towns outside London which have now been merged into two classes. The new Class A embraces the former Classes I and II and the new Class B the former Classes III, IV and V.

The new agreement retains the existing classification of grades, with improved rates of pay, as laid down by Industrial Court award No. 728, which placed the railway workshop staff into four schedules, namely:—

Schedules B and C ...	Skilled workers.
Schedule D	Semi-skilled workers.
Schedule E	Unskilled workers.

The grades coming within Schedule C are skilled workers employed at specified places and the new rates of pay for time-workers are as follow:—

Boilersmiths (Running Sheds)	106 s. 6d. a week.
Coremakers (Brass) ...	92s. 6d. and 97s. 6d. a week.
" (Iron)	95s. 6d. and 98s. 6d. "
Moulders (Brass) ...	98s. 6d. and 101s. 6d. "
" (Iron)	98s. 6d. and 101s. 6d. "
Platers	99s. 6d. and 101s. 6d. "
Riveters	96s. 6d. and 100s. 6d. "
Angle Ironsmith ...	101s. 6d. "

Schedule D contains a variety of semi-skilled grades, and the following are examples of the new composite rates of pay for timeworkers:—

	London	Class A towns	Class B towns
	s. d.	s. d.	s. d.
Assistants and Mates from ...	89 0	86 0	85 6
to	91 6	88 6	87 6
Belt Makers and Repairers ...	94 0	91 0	90 6
Brickarchman	92 0	89 0	88 6
Case Hardener	94 6	91 6	90 6
Casters—Chair and Brake Block ...	92 0	89 0	88 6
Cupolaman	94 6	91 6	90 6
French Polisher	98 6	95 6	94 6
Gland Packer	92 0	89 0	88 6
Jointmaker—Steam ...	93 0	90 0	89 6
Lead Burner	95 6	92 6	91 6
Saddler and Harness Maker ...	97 6	94 6	93 6
Rope Maker and Splicer ...	93 0	90 0	89 6
Scrap Sorter	88 0	85 0	85 0
Spring Fitter	94 6	91 6	91 0
Spring Maker	99 6	96 6	95 6
Stay Tapper	90 6	87 6	87 0
Striker—Smiths	91 6	88 6	87 6
Wagon Builders and Repairers:—			
Grade I	98 6	95 6	94 6
" II	95 6	92 6	91 6
" III	92 0	89 0	88 6
Wood Machinist and Sawyer:—			
Grade I	98 6	95 6	94 6
" II	95 6	92 6	91 6
" III	92 0	89 0	88 6

For the unskilled workers under Schedule E the new rates of pay of timeworkers are:—

	s. d.	s. d.	s. d.
Labourers—			
Grade II	87 0	85 0	85 0
" I	87 6	85 6	85 6

The new composite rates of pay for apprentices, boys, and youths are:—

Age	London	Other places
	s. d.	s. d.
14	22 0	20 0
15	24 0	22 0
16	27 0	25 0
17	32 0	30 0
18	47 0	45 0
19	52 0	50 0
20	62 0	60 0

For women and girls the new rates of pay are:—

Age	London	Other places
	s. d.	s. d.
14	22 0	20 0
15	24 0	22 0
16	27 0	25 0
17	32 0	30 0
18	46 0	44 0
19	49 0	47 0
20	54 0	52 0
21 and over	63 6	61 6

Pieceworkers are to have their composite rates of pay increased as follows:—

Grades in Schedules B, C, and E

The same increase in composite rates as applies to the timeworkers in the same grade at the same class of place.

Grades in Schedule D

The same amount of increase in composite rate as would apply to the rate for his grade which the man concerned would be at present receiving if he were a time-worker.

Annual leave

As from January 1, 1946, railway workshop staff are to be granted after twelve months' service, 12 days annual leave with pay each year instead of 6 days as at present. In addition, payment will be made for two Bank and Public Holidays each year.

Guaranteed Day and Guaranteed Week

Staff who are available for duty on any weekday are guaranteed a day's pay and staff who are available for work throughout the week are guaranteed a week's wages on the basis of the timeworkers weekday rates of pay for a 47-hour week.

The guaranteed week does not apply to weeks in which the works are closed and it is to be automatically suspended in the event of a strike at a particular place, either generally or as affecting a particular section of the staff.

Except for extended holidays which commence next year, the whole of the new agreement is to operate with effect on and from July 30, 1945.

New Ships for the Southern Railway

Three new vessels have been ordered by the Southern Railway from William Denny & Bros. Ltd., of Dumbarton, for use in connection with the Cross-Channel and Isle of Wight services. They will embody the most modern ideas for the comfort of passengers and the convenience of handling specialised cargoes. The first is a turbine twin screw, oil-burning, Cross-Channel passenger steamer of 3,600 gross registered tons, capable of over 20 knots and with accommodation for 1,460 passengers and crew. This vessel normally will be used on the Cross-Channel services from Southampton, which include the Channel Islands and St. Malo, but it is so designed as to be capable of working into any port used by the Southern Railway on its Cross-Channel services.

There will be sleeping accommodation for 354 passengers and nearly three times the number of private cabins available as on previous steamers. This has been made possible by the provision of an additional deck; the promenade deck has been allocated to the public rooms, all of which are amidships. Second-class accommodation is also greatly improved and special attention given to the catering facilities. The ship will be fitted with a new type of Denny-Brown stabiliser to reduce rolling during inclement weather.

The other two vessels are a twin-screw, diesel-driven cargo ship for use primarily on the Southampton-Channel Islands service, and a diesel-electric car ferry vessel for the Lymington-Yarmouth (I.-o.-W.) ferry service. This vessel will accommodate 32 cars, twice the number which could be loaded on the one previously used on this route. In addition, 320 passengers can be carried, for whom refreshment facilities will be available on board.

It is expected that all three ships will be brought into service early in 1947 and that others will be ordered for delivery each successive year.

Notes and News

British Oxygen Co. Ltd.—The British Oxygen Co. Ltd. announces an interim dividend on the ordinary stock of 8 per cent. (same), less tax, on account of 1945.

British Latin American Air Lines Limited.—The offices of British Latin America Air Lines Limited are now at 19, Grafton Street, London, W.1. Telephone: Regent 4141.

Rhodesia Railways Trust Limited.—Profit of Rhodesia Railways Trust Limited for the year ended March 31, 1945, was £130,710, compared with £127,389. A dividend has been declared of 10 per cent., less tax, against 12½ per cent., less tax.

Pullman Incorporated, U.S.A.—It is reported from New York that in accordance with the decision in the recent anti-trust suit, Pullman Incorporated has advised the United States railway companies of its intention to cancel its sleeping car service from December 31 next. It is also stated that the company is understood to be negotiating with several non-railway groups for the sale of the business.

Vestfold Railway.—The Vestfold Railway, a 3-ft. 6-in gauge line of 46 miles, was formed on July 1, 1934, as an amalgamation of the Holmestrand-Hvittingfoss and the Tönsberg-Eidsfoss Railways. We have recently learned officially from Norway that the Vestfold line was abandoned on May 31, 1938, the lines taken up and the track subsequently converted into a road.

Assam Railways & Trading Co. Ltd.—The Order of the High Court of Justice, Chancery Division, dated July 30, 1945, confirming the reduction of the capital of the Assam Railways & Trading Co. Ltd. from £1,160,000 to £615,000, and the minute approved by the Court showing with respect to the share capital of the company, as altered, the several particulars required by the Companies Act, 1929, were registered by the Registrar of Companies on August 9, 1945.

Copper, Nickel and Zinc Control.—The Ministry of Supply announces that applications to the Directorate of Non-Ferrous Metals for licences to acquire copper, nickel, and zinc for the production of semi-manufactured or manufactured goods, whether for the home trade or for export, will be considered by the Directorate without restriction in respect of the type of article to be manufactured. Inquiries should be made to the Directorate of Non-Ferrous Metals Grand Hotel, Rugby.

Proposed Underground Railway for Rio de Janeiro.—A project to link the electrified suburban line of the Central of Brazil Railway at Rio de Janeiro with a new metropolitan underground system is reported to have been received favourably by the Brazilian Ministry of Transport. The completion of the line would require two or three years, and is estimated to cost £2,850,000. The main project consists of the establishment of one underground trunk line, called the Circular Dupla, about 6 km. long. Two branch lines would complete the principal network of the system.

Charles Roberts & Co. Ltd.—The consolidated accounts for the year to March 31, 1945, of Charles Roberts & Co. Ltd. show a trading profit of £400,737 (£383,181) and the total income was £406,357 (£389,578). Net profit of the group was £73,752 (£74,684). Trading profit of the parent company was £151,109 (£275,357) plus other income £74,605 (£26,751), making a total of £225,714,

compared with £302,108. Provision for taxation absorbs £78,000 (£132,000), depreciation of wagons £23,302 (£46,665), interest £30,625, depreciation of buildings and plant £25,000 (same), and directors' fees and war damage insurance £2,775, leaving a net profit of £66,012 (£66,155). The ordinary dividend is maintained at 15 per cent. and in addition there is a bonus distribution of 5 per cent. Debenture sinking fund takes £6,874 (same) and £20,000 (nil) is placed to contingencies account. The carry forward is £47,210, compared with £54,248 brought in.

Glamorgan Wagon Co. Ltd.—For the year to November 30, 1944, trading profit of the Glamorgan Wagon Co. Ltd. was £4,703 (£4,556) and other income was £31. Debenture interest and directors' fees take £1,069. The ordinary dividend for the year is unchanged at 5 per cent., less tax, and the carry forward is £32,015 (£25,966).

Panama Railways.—The Chiriqui National Railroad of Panama, which is Government-owned, ended the year 1944 with a net profit of \$5,658, compared with an operating loss of \$10,748 in 1943. The management announced that new cars and diesel units would be purchased within the next 12 months to permit of improved service and modernisation.

Scottish Machine Tool Corporation Limited.—Net profits of the Scottish Machine Tool Corporation Limited for the year to March 31, 1945, amount to £50,896, against £92,429 for the previous year. Taxation is £33,500 (£75,500) after taking credit for £5,000 estimated to be recoverable on E.P.T. The final dividend is 5 per cent., making 8 per cent. (same) for the year.

British-Owned Argentine Railway Companies.—A report that the Argentine Government had made proposals for the purchase of British-owned railway companies, which circulated in London on August 28, was denied the same afternoon by Sir Montague Eddy, Chairman of the British Railway Mission in Argentina. He said: "There have been no pourparlers of any kind, neither have we been approached up to the present with any such object in view."

Canadian Pacific Railway.—Gross earnings of the Canadian Pacific Railway for the month of July, 1945, amounted to \$28,978,000, an increase of \$1,662,000 in comparison with July, 1944. The working expenses of \$25,082,000 showed an advance of \$1,425,000, leaving net earnings \$237,000 higher, at \$3,896,000. Aggregate gross earnings from January 1 to July 31, 1945, were \$183,706,000, an increase of \$1,815,000 in comparison with the first seven months of 1944, and the net earnings of \$21,116,000 were \$5,224,000 lower.

Engineering & Lighting Equipment Co. Ltd.—Mr. S. A. Marples, the chairman, in the course of his statement circulated with the report and accounts of Engineering & Lighting Equipment Co. Ltd., said that the feature of adaptability in the company's personnel, as well as the comprehensive nature of its plant and processes that had been so useful during the five years of war, was not without its bearing upon the turn-over to peace-time activities. Considerable quantities of fittings and accessories had already been supplied for the rehabilitation of street lighting and for export. New designs and production were being accelerated and should be ready as the war needs diminished. Continuous research, the anticipation of public requirements in illuminating and other lines, both for the domestic and the large export fields which

were opening up, should keep the company busy for some time and help satisfactorily to bridge the transition stage when war controls were eased and labour was made available.

Santa Marta Railway Co. Ltd.—At the extraordinary general meeting of the Santa Marta Railway Co. Ltd. held at the office of the company, 1, Federal Street, Boston, Massachusetts, U.S.A., on Tuesday, July 31, 1945, special resolutions were unanimously passed in favour of the company being wound up voluntarily and of the

British and Irish Railway Stocks and Shares

Stocks	Highest 1944	Lowest 1944	Prices	
			Sept 1945	Rise/Fall
G.W.R.				
Cons. Ord. ...	62½	55	52	— 2
5% Con. Pref. ...	122½	114½	111	— 1
5% Red. Pref. (1950) ...	110½	104	103	—
5% Rt. Charge ...	135½	128	123	—
5% Cons. Guar. ...	134½	125	120½	—
4% Deb. ...	118½	112½	108	—
4½% Deb. ...	118½	114	109½	—
4½% Deb. ...	124½	119½	113	—
5% Deb. ...	137	129½	126	—
2½% Deb. ...	77	73½	76½	—
L.M.S.R.				
Ord. ...	34½	27½	25½	— 1½
4% Pref. (1923) ...	64½	55	54½	— 1½
4% Pref. ...	81	72½	70½	— 2½
5% Red. Pref. (1955) ...	105½	102	101½	—
4% Guar. ...	107½	99½	99½	—
4% Deb. ...	111½	104	106	—
5% Red. Deb. (1952) ...	111	108	107½	—
L.N.E.R.				
5% Pref. Ord. ...	10½	7½	6½	— 2
Def. Ord. ...	5½	3½	3½	—
4% First Pref. ...	68½	55½	53	— 2½
4% Second Pref. ...	35½	28½	26½	— 1½
5% Red. Pref. (1955) ...	101	97½	98	—
4% First Guar. ...	101½	96½	97	—
4% Second Guar. ...	85½	88½	91	— 1
4% Deb. ...	110½	80½	83½	— ½
4% Deb. ...	110½	103½	104	— 1
5% Red. Deb. (1947) ...	105½	101½	101½	—
4½% Sinking Fund Red. Deb. ...	107	104½	104½	—
SOUTHERN				
Pref. Ord. ...	80½	71½	67½	— 2½
Def. Ord. ...	26½	23	22	— ½
5% Pref. ...	122	113½	109½	— 1½
5% Red. Pref. (1964) ...	117½	112½	112	— ½
5% Guar. Pref. ...	134	125½	120	— ½
5% Red. Guar. Pref. (1957) ...	115½	112½	110	—
4% Deb. ...	118	110	107	— 1
3% Deb. ...	135½	127	126	—
4% Red. Deb. (1962) ...	111½	107½	108½	—
4% Red. Deb. (1970-80) ...	112	108½	108½	—
FORTH BRIDGE				
4% Deb. ...	107	103	104	—
4% Guar. ...	106½	102	103	—
L.P.T.B.				
4½% "A" ...	125	119	119½	— ½
5% "A" ...	133½	128	128½	—
3% Guar. (1967-72) ...	99½	98	99	—
5% "B" ...	124½	118½	118	— ½
5% "C" ...	72½	64½	62½	— 1
MERSEY				
Ord. ...	35½	33	33	—
3% Perp. Pref. ...	72	66	69	—
4% Perp. Deb. ...	105	103	104	—
3% Perp. Deb. ...	85½	79½	80	—
IRELAND*				
BELFAST & C.D.				
Ord. ...	9	6	6½	—
G. NORTHERN				
Ord. ...	33½	19	28½	—
Pref. ...	49	37	47½	—
Guar. ...	70	57½	74	—
Deb. ...	90½	81½	90	— 2½
IRISH TRANSPORT				
Common ...	—	—	76½	—
3% Deb. ...	—	—	100	—

* Latest available quotation

OFFICIAL NOTICES

DIESEL TRACTION EXECUTIVES having Mechanical, Electrical or Engine design experience, required by Locomotive Engineers in London. Salary commensurate with qualifications and experience. Applications in confidence to Box No. 79, c/o *The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

OLD-ESTABLISHED and well-connected Belgian firm in Brussels wishes to hold the exclusive agency in Belgium and Luxembourg for a British firm producing railway and tramway rolling stock and fittings. All particulars and references on application.—Box 248, c/o *The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

appointment of Mr. Louis S. Sisto as liquidator. The United Fruit Company, U.S.A., owned a direct controlling interest in the Santa Marta Railway.

Junior Sales Engineer Required.—A junior sales engineer is required by a large firm in the North of England. See Official Notices above.

Diesel Traction Executives Required.—Diesel traction executives having mechanical, electrical or engine design experience are required by locomotive engineers in London. See Official Notices above.

Relaxation on Use of Copper.—The Ministry of Supply has announced that, from August 14, all restrictions on the release of copper for fully-manufactured goods for export have been removed by the Non-Ferrous Metals Control.

Accident on East Indian Railway.—It is reported that 17 persons were killed, and six injured, as the result of a collision between Train 99 Up Gaya-Benares and two light engines two miles east of Moghalsarai, East Indian Railway, on July 28.

Road Transport Engineer Required for India.—A road transport engineer is required for a large Indian road transport undertaking. Applicants should have wide experience on maintenance at headquarters and depots, and be a proved organiser. See Official Notices above.

Accident at Haywards Heath, S.R.—An empty troop train of 13 coaches ran into a buffer at Haywards Heath Station early on September 2, and the engine overturned, blocking both the up and down lines. One coach was telescoped and the driver and fireman were killed. Several trains had to be cancelled, and some were diverted by way of Three Bridges. Motor-buses provided a shuttle service.

Reconstruction of Belgian Railways.—Some interesting details of the re-organisation of the Belgian railways were given in a report presented at the recent annual general meeting of the Belgian National Railways Company. This states that 2,000 railway wagons which were ordered in Great Britain are in course of being delivered. Orders have also been placed with Belgian industry for 10,000, and in the United States for 6,000. Canada is to supply 220 locomotives, the U.S.A. 80, and Belgian works 213.

During the war, the company lost 65,000 wagons and 1,000 of its best locomotives. In addition, 127 miles of track, 154 signal boxes, and 403 bridges were destroyed. War damage to the railways amounted on December 31, 1944, to 4,926,000,000 Belgian francs, excluding the losses resulting from the Rundstedt offensive in the Ardennes. The financial year 1944 ended with a working deficit of 1,655,000,000 francs, bringing the accumulated deficit since 1934 to

ROAD TRANSPORT ENGINEER required to sail at early date capable of taking charge of rehabilitation of existing fleet and post-war expansion of largest Indian Road Transport undertaking handling both passengers and goods. Should have wide experience on maintenance at Headquarters and Depots, and be proved organiser. Salary according to qualifications, equivalent to £1,500-£1,800 per annum. Applications are to be by letter only and will be treated as confidential. They are to give full particulars of age, education, training, experience, positions held in the past, and present position, and should be sent, with copies of recent testimonials, to the Secretary, H.E.H. the Nizam's State Railway, 78, Old Broad Street, London, E.C.2.

2,999,000,000 francs, exclusive of war damage proper, for which the company awaits compensation from the State.

At the close of the year the Belgian railways had 94,340 employees—nearly 20,000 more than before the war. This policy of increasing the railway staffs enabled many Belgian workers to escape deportation, and it reduced the traffic during the enemy occupation, as the number of acts of sabotage rose in direct ratio with the number of workers employed.

Permanent Way Visit to Redbridge.—By courtesy of Mr. V. A. M. Robertson, Chief Civil Engineer, Southern Railway, and with the co-operation of Mr. A. Dean, Permanent Way Maintenance Engineer, the members of the London Section of the Permanent Way Institution have been invited to inspect the Southern Railway permanent way assembly ground and depot at Redbridge, near Southampton, on Saturday, September 22. The party will leave Waterloo Station on the 12.30 p.m. train, arriving at 2.29 p.m. Mr. Dean will provide

None of the vacancies on this page relates to a man between the ages of 18 and 50 inclusive unless he is excepted from the provisions of the Control of Engagement Order, 1945, or the vacancy is for employment excepted from the provisions of that Order.

A JUNIOR SALES ENGINEER required by large firm in North of England. Applicant should have good education followed by apprenticeship in Railway Engineering. Knowledge of Motor Trade an asset. Age should not exceed 30. Permanent position with good prospects. Write giving full details of experience and salary required.—Box 308, c/o *The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1

tea, and the party will return on the 5.50 p.m. train, due at Waterloo at 8.33 p.m.

Mobile Exhibition of Penicillin on G.W.R.—An interesting exhibition of penicillin and modern medicine in two converted Great Western Railway syphon-type parcel vans and organised by St. Mary's Hospital, Paddington, was opened by Lord Portal, the Chairman of the Great Western Railway Company, at Paddington Station, on Monday last. Lord Portal said that the exhibition was a token of the gratitude of the Great Western Railway directors for the medical attention which had been received by their employees from the hospital. The exhibition would tour some of the principal towns on the Great Western system and would show those who visited it the great work that had been done in penicillin research, towards which St. Mary's had played such a big part. The exhibition will be on view to the public at Paddington from October 16 to 19. Lord Portal was supported by the Hon. Sir Edward C. G. Cadogan, K.B.E., C.B., the Deputy Chairman of the Great Western Railway Company, and the following officers:—

Sir James Milne, K.C.V.O., C.S.I., General Manager; Mr. K. W. C. Grand, Assistant General Manager; Mr. Gilbert Matthews, Superintendent of the Line; Mr. F. W. Lampitt, Chief Goods Manager; Mr. C. T. Cox, Divisional Superintendent, London; Dr. Cavendish Fuller, Chief Medical Officer.

Metropolitan-Vickers Electrical Co. Ltd.—Important research work in connection with radiolocation and the development of the atomic bomb was undertaken by the Metropolitan-Vickers Electrical Co. Ltd. during the recent war. The company's research department, under the direction of Sir Arthur P. M. Fleming, played a leading part in the design and construction of the radiolocation apparatus for Great Britain's defensive chain of transmitting stations. The company's research laboratories also have made important contributions to the preliminary work on the evolution of the atomic bomb. The famous atom-splitting experiment at Cambridge in 1932, which led to a rapid increase in knowledge of the atom, was dependent on the company's researches in the creation of the high vacuum required for the electrical apparatus used. One of the most important pieces of apparatus used in the later stages of investigation into the structure of the atom is that known as the cyclotron. The cyclotrons used by Sir James Chadwick at Liverpool and in the Cavendish Laboratory at Cambridge under Lord Rutherford, and later under Prof. Sir Lawrence Bragg, were constructed by the Metropolitan-Vickers Electrical Co. Ltd. The company also has made many entirely new types of instruments and apparatus used in connection with the production of the atomic bomb and of the material which comprises the explosive element.

Automatic Door on C.P.R.



An automatic door opening device which operates at a touch has been incorporated in a rebuilt C.P.R. passenger coach

Railway Stock Market

Business in stock markets has been on a moderate scale, although the undertone was firm generally in expectation of a satisfactory outcome to the Anglo-American negotiations after the ending of lend-lease. British Funds remained noticeably firm on talk of a new Government loan in the late autumn; 2½ per cent. Consols and Local Loans again were prominent and 3½ per cent. War Loan also strengthened in price. The end of the war was followed by a further strong outburst of speculative buying of Far Eastern bonds, among which South Manchurian Railway 5 per cent. remained outstanding; the price showed a vigorous rise to 64, compared with 38½ a week ago.

Home rails receded further, although subsequently a number of prior charge stocks strengthened on the belief that prices are undervalued on investment merits and the promise of fair compensation in the event of nationalisation. The proposals for state ownership of transport, prepared for the Trades Union Conference had little effect on market sentiment. This serves to emphasise the grandiose schemes that may be in prospect. Nevertheless, if a widespread scheme embracing all forms of transport is favoured by the Government it is clear it will take a considerable time to draw up, and the view prevails that, so far as can be judged, two years or more may elapse before it can be presented. Little is mentioned in the T.U.C. statement of the vital question of compensation for stockholders. It is difficult to see how the "reasonable maintainable net revenue system" commended by the T.U.C. could

be applied and at the same time give fair compensation to railway stockholders. The view prevails in the City that home railway stocks are undervalued, although it is impossible to assess the future, as this will turn on whatever scheme is ultimately adopted by the Government in regard to nationalisation of transport. Nevertheless, it seems not unlikely that as time proceeds the large yields obtainable on railway stocks will attract more attention.

Argentine railway stocks continued in larger demand with a further general rise in prices ranging up to 3½ points in debenture stocks. The impression apparently prevails in some quarters that after all the Argentine Government may have nationalisation plans in prospect; but that if this is so, stockholders would have to be compensated on a basis well above current prices of stocks. Debentures have been particularly favoured, because of the assumption that in any case results of the railways should be able to show sufficient improvement to allow of interest payments where they are in arrear, and that generally the cover for debenture interest requirements should improve.

Compared with a week ago, Great Western has receded further from 53½ to 52½, and the 5 per cent. preference eased to 111½, and the guaranteed stock lost a point at 120½; but the 4 per cent. debentures remained at 108. L.M.S.R. was 25½, against 26½ a week ago, the 1923 preference also easing from 56 to 54½ and the senior preference from 73 to 71½. L.N.E.R. second preference went back from 27½ to 26½ and the first preference from 55 to 54½.

Southern deferred was 22½, in comparison with 22½ a week ago; the preferred reacted from 70½ to 68½ and the 5 per cent. preference was 110. London Transport "C" eased fractionally to 63½.

In the Argentine section, further general gains included a rise from 11½ to 12½ in Buenos Ayres Great Southern, the 5 per cent. preference improving 1½ to 27½, and the 4 per cent. debentures were 68, compared with 67 a week ago. Buenos Ayres & Pacific consolidated debentures rose from 60 to 63½, Argentine Great Western 5 per cent. debentures from 61 to 64½ and Central Argentine 5 per cent. debentures were 68½. Buenos Ayres Western 4 per cent. debentures also rose from 59 to 62 and Entre Rios 4 per cent. debentures were higher at 65 with the first preference two points up to 17. In other directions, San Paulo gained 1½ at 56. United of Havana debentures were firmer on the reorganisation scheme. Canadian Pacific at 20½ moved slightly higher on balance.

SILENTBLOC LIMITED.—Mr. H. Vezey Strong, Chairman of Silentbloc Limited, in the course of his address at the tenth ordinary general meeting, said that the company's normal business was beginning once more to take shape, although at present its factories were worse off for labour than at any time during the war. Apart from its normal business, the company had certain negotiations afoot which, if successful, would open new possibilities both at home and overseas, and the scope of its activities had been so widened that to-day it served some 68 different trades and industries.

Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week ended	Traffic for week		No. of Week	Aggregate traffic to date			Shares or Stock	Prices					
			Total this year	Inc. or dec. compared with 1943/4		Totals		Increase or decrease		Highest 1944	Lowest 1944	Sept. 4 1945	Yield % (See Note)		
						1944/5	1943/4								
			£	£		£	£	£							
Antofagasta (Chili) & Bolivia	834	26.8.45	28,810	—	760	34	1,014,960	973,560	+	41,430	Orl. Stk.	13½	9½	10½	Nil
Argentine North Eastern	753	25.8.45	18,969	+	288	8	152,388	138,500	—	13,888		6½	4½	8	Nil
Bolivar	174	July, 1945	4,127	—	780	30	34,402	36,663	—	2,261	6 p.c. Deb.	18½	7½	8½	Nil
Brazil	...	...	...	...	...	...	...	...	...	...	Bonds	19½	15	23	Nil
Buenos Ayres & Pacific	2,771	25.8.45	125,187	+	7,062	8	991,500	941,437	+	50,063	Ord. Stk.	7½	3½	6	Nil
Buenos Ayres Great Southern	5,080	25.8.45	211,812	+	50,500	8	1,529,125	1,382,688	+	146,437	Ord. Stk.	14½	9½	12½	Nil
Buenos Ayres Western	1,924	25.8.45	76,125	+	12,875	8	546,562	508,937	+	37,625	"	13½	9½	12½	Nil
Central Argentine	3,700	18.8.45	183,200	+	14,312	7	1,306,016	1,246,619	+	59,397	"	10½	6½	9	Nil
Do.	...	...	...	...	...	...	...	...	...	...	Dld.	4½	3	4	Nil
Cent. Uruguay of M. Video	972	25.8.45	32,731	+	5,336	8	275,784	253,726	+	22,058	Ord. Stk.	5½	4	6	Nil
Costa Rica	262	June, 1945	36,024	+	12,773	42	295,175	274,930	+	20,245	Stk.	17½	14½	15	Nil
Dorada	70	July, 1945	31,960	+	3,579	30	214,335	177,690	+	36,645	1 Mt. Deb.	101	101	101½	£ 18 3
Entre Rios	808	25.8.45	26,912	+	2,219	8	213,456	191,119	+	22,337	Ord. Stk.	6½	4½	6	Nil
Great Western of Brazil	1,030	25.8.45	23,000	+	4,600	34	832,200	730,100	+	102,100	Ord. Sh.	38	23 3	25	Nil
International of Cl. Amer.	794	July, 1945	8224,789	+	878,819	30	81,490,855	81,354,082	+	8136,773	"	—	—	—	—
Interoceanic of Mexico	...	...	...	...	...	...	...	...	...	...	1st Pref.	1½	—	1	Nil
La Guaira & Caracas	22½	July, 1945	6,361	—	2,149	30	43,290	54,940	—	11,650	5 p.c. Deb.	88	79	76½	7 65d
Leopoldina	1,918	25.8.45	60,635	+	14,744	34	1,706,628	1,541,321	+	165,307	Ord. Stk.	5½	4½	4	Nil
Mexican	483	21.8.45	ps. 640,300	+	ps. 169,100	7	ps. 4,729,400	ps. 3,652,200	+	ps. 1,077,200	Ord. Stk.	—	—	1½	Nil
Midland Uruguay	319	June, 1945	21,830	—	6,402	52	217,882	203,238	+	14,644	"	—	—	—	—
Nitrate	382	15.8.45	7,819	+	794	32	111,795	119,248	+	7,453	Ord. Sh.	75/10	65/10	70	£ 11 5
North Western of Uruguay	113	June, 1945	4,575	—	2,189	52	66,965	91,572	—	24,607	"	—	—	—	—
Paraguay Central	274	24.8.45	£ 62,742	—	£ 6,197	8	£ 515,778	£ 453,044	+	£ 62,734	Pr. Li. Stk.	79½	68	77½	£ 7 14/10
Peruvian Corporation	1,059	July, 1945	134,750	+	16,110	4	c 1,511,000	c 1,484,000	+	c 27,000	Pref.	9	10	9½	Nil
Salvador	100	June, 1945	c 91,000	+	c 11,000	52	c 1,511,000	c 1,484,000	+	c 27,000	Ord. Stk.	57½	46	54½	£ 5 10 1
San Paulo	153½	...	...	...	...	...	...	...	...	...	Ord. Sh.	21 3	13 9	13 9	Nil
Talital	156	July, 1945	1,785	—	30	4	...	...	—	...	"	4	2½	2	Nil
United of Havana	1,301	25.8.45	46,218	+	1,822	8	355,817	383,236	—	27,919	Ord. Stk.	—	—	—	—
Uruguay Northern	73	June, 1945	1,460	—	52	52	19,568	17,929	+	1,639	"	—	—	—	—
Canada	...	...	...	...	...	...	...	...	...	...	Ord. Stk.	17½	13½	20½	2½
Canadian National	23,569	July, 1945	1,816,800	+	68,400	30	9,696,400	8,196,600	—	248,600	"	—	—	—	—
Canadian Pacific	17,028	21.8.45	1,132,800	—	80,800	33	40,409,600	38,773,000	+	423,000	"	—	—	—	—
Various	...	...	...	...	...	...	...	...	...	...	Ord. Stk.	129½	97½	129½	£ 9 6
Barsi Light†	202	June, 1945	19,620	—	4,185	14	74,595	75,487	—	892	"	—	—	—	—
Beira	204	June, 1945	80,259	—	11,581	42	196,080	186,144	—	26,279	Prf. Sg.	7½	5½	6½	Nil
Egyptian Delta	607	31.7.45	17,687	—	1,020	14	196,080	186,144	—	26,279	B. Deb.	63½	58	65	Nil
Manila	...	...	...	...	...	...	...	...	...	...	Inc. Deb.	101½	99½	95½	£ 4 3
Midland of W. Australia	277	June, 1945	11,866	—	8,048	52	219,103	332,901	—	113,798	"	—	—	—	—
Nigeria	1,900	26.5.45	277,630	+	23,531	8	1,823,785	1,739,068	+	84,717	"	—	—	—	—
Rhodesia	2,445	June, 1945	522,625	—	40,423	42	...	...	—	...	"	—	—	—	—
South Africa	13,301	21.8.45	1,014,367	+	148,674	17	16,759,852	14,579,263	+	2,180,589	"	—	—	—	—
Victoria	4,774	April, 1945	1,285,324	+	96,325	—	...	...	—	...	"	—	—	—	—

Note. Yields are based on the approximate current price and are within a fraction of ½. Argentine traffic is given in sterling calculated @ 16 pesos to the £.

† Receipts are calculated @ 1s. 6d. to the rupee.